

	A	B	C	D	E	F
1						
2	Indicator 1C (Outcome Level)	Total # Labs Targeted for viral family screening (pull from Indicator 1.2a)	Is this country improving quality assurance and safety procedures? *Based on labs ability to 1) test for 1 viral family, 2) test for all 5 PREDICT prioritized viral families, 3) test for additional viral families	Notes	Calculation for Reporting	Numerator: Total # of ETD supported labs that improved QA and safety procedures in place in order to perform testing since the last reporting period. Denominator: Total # of ETD supported labs
3						
4	AFRICA					
5	Cameroon	2	1 (50%)	Now testing for 6 viral families		
6	Cote d'Ivoire	2	1 (50%)	Both labs now testing for one or two viral families		
7	DRC	1	1 (100%)	Now testing for 10 viral families		
8	Ethiopia	2	1 (50%)	5 viral families		
9	Ghana	2	2 (100%)	Both labs now testing for 4 viral families		
10	Guinea	1	1 (100%)	1 viral family		
11	Kenya	2	2 (100%)	Both labs now testing for 4 viral families		
12	Liberia	1	0			
13	RoC	1	0			
14	Rwanda	2	1 (50%)	4 viral families		
15	Senegal	2	2 (100%)	Both labs now testing for 5 viral families		
16	Sierra Leone	1	1 (100%)	1 viral family		
17	Tanzania	2	2 (100%)	5 viral families		
18	Uganda	1	1 (100%)	Now testing for 8 viral families		
19	ASIA					
20	Bangladesh	2	2 (100%)	Both labs now testing for 5 viral families		
21	Cambodia	3	1 (30%)	Now testing for 9 viral families		
22	China	4	2 (50%)	Now testing for 6 viral families		
23	India	1	1 (100%)	Lab now testing for 5 viral families		
24	Indonesia	3	2 (60%)	5 viral families		
25	Lao PDR	2	1 (50%)	5 viral families		
26	Malaysia	5	4 (80%)	4 Lab now testing for 5 viral families		
27	Mongolia	1	1 (100%)	1 viral family		
28	Myanmar	2	2 (100%)	2 labs now testing for 4 viral families		
29	Nepal	2	1 (50%)	5 viral families		
30	Thailand	2	2 (100%)	Now testing for 12 viral families		
31	Vietnam	5	3 (60%)	Now testing for 6 viral families		
32	MIDDLE EAST					
33	Egypt	1	1 (100%)	3 viral families		
34	Jordan	1	1 (100%)	4 viral families		
35						
36	*for the period 10/1/17-9/30/18 ONLY		40 labs improving quality assurance and safety procedures			

	A	B
1	<b>New Indicator</b>	
2	<b>Indicator 1.1a</b>	<b>#, list of countries with concurrent sampling (indicate Y/N)</b>
3	<b>Indicate Country, Region or Global</b>	
4	Bangladesh	Y
5	Cambodia	Y
6	Cameroon	Y
7	China	Y
8	Cote d'Ivoire	Y
9	Democratic Republic of Congo	Y
10	Egypt	Y
11	Ethiopia	Y
12	Ghana	Y
13	India	Y
14	Indonesia	Y
15	Jordan	Y
16	Kenya	Y
17	Lao PDR	Y
18	Malaysia	Y
19	Myanmar	Y
20	Nepal	Y
21	Republic of Congo (RoC)	Y
22	Rwanda	Y
23	Senegal	Y
24	Tanzania	Y
25	Thailand	Y
26	Uganda	Y
27	Viet Nam	Y
28		
29		
30	<b>*for the period 10/1/17-9/30/18 ONLY</b>	
31		<b>100% of target achieved</b>

	A	B	C	D
1	Indicator 1.1b	# <b>viral</b> pathway models or maps developed, refined, analyzed and/or described	# <b>bacterial</b> pathway models or maps developed, refined, analyzed and/or described**	# <b>disease risk</b> pathway models or maps developed, refined, analyzed and/or described**
2	<b>WEST AFRICA (Regional)</b>			
3	Burkina Faso (ASL2050 only)	2		
4	Cameroon	1		1
5	Cote d'Ivoire	1		1
6	Ghana	1		1
7	Guinea	1		1
8	Liberia	1		1
9	Nigeria (ASL2050 only)	2		
10	Senegal	1		1
11	Sierra Leone	1		1
12	<b>AST &amp; CENTRAL AFRICA (Regional)</b>			
13	DRC	1		1
14	Ethiopia	1		1
15	Kenya	2		1
16	RoC	1		1
17	Rwanda	1		1
18	Tanzania	1		1
19	Uganda	2		1
20	<b>ASIA (Regional)</b>			7
21	Bangladesh	1		1
22	Cambodia	1		1
23	China	5		2
24	India	1		1
25	Indonesia	1		1
26	Lao PDR	1		1
27	Malaysia	1		1
28	Mongolia	1		1
29	Myanmar	1		2
30	Nepal	1		1
31	Thailand	1		2
32	Vietnam	1		1
33	<b>MIDDLE EAST (Regional)</b>			
34	Egypt	1		1
35	Jordan	1		1
36				
37				
38				
39	<b>GLOBAL</b>			

1.1b (MAPS & MODELS)

	E
1	<b>Provide a list and brief narrative description of each viral, bacterial or risk pathway model or map developed, refined, analyzed and/or described. If feasible, the maps or models should be attached.</b>
2	
3	29. country-level relative EID risk map, 61. province-level avian influenza epidemic risk map
4	1. country-level relative EID risk map, 31. country-level predicted zoonoses map
5	2. country-level relative EID risk map, 32. country-level predicted zoonoses map
6	3. country-level relative EID risk map, 33. country-level predicted zoonoses map
7	4. country-level map for EID risk, 34. country-level predicted zoonoses map
8	5. country-level relative EID risk map, 35. country-level predicted zoonoses map
9	30. country-level relative EID risk map, 62. province-level avian influenza epidemic risk map
10	6. country-level relative EID risk map, 36. country-level predicted zoonoses map
11	7. country-level relative EID risk map, 37. country-level predicted zoonoses map
12	
13	8. country-level relative EID risk map, 38. country-level predicted zoonoses map
14	9. country-level relative EID risk map, 39. country-level predicted zoonoses map
15	10. country-level relative EID risk map, 40. country-level predicted zoonoses map, 59. Province-level avian influenza epidemic risk map
16	11. country-level relative EID risk map, 41. country-level predicted zoonoses map
17	12. country-level relative EID risk map, 42. country-level predicted zoonoses map
18	13. country-level relative EID risk map, 43. country-level predicted zoonoses map
19	14. country-level relative EID risk map, 44. country-level predicted zoonoses map, 60. province-level avian influenza risk map
20	67-71. Regional risk of bat-pig outbreak, 74-75. Bat-harvester interactions
21	15. country-level relative EID risk map, 45. country-level predicted zoonoses map
22	16. country-level relative EID risk map, 46. country-level predicted zoonoses map
23	17. country-level relative EID risk map, 47. country-level predicted zoonoses map, 63-66. bat coronavirus origin and cross-species transmission models, 72. pig population at risk of outbreak map
24	18. country-level relative EID risk map, 48. country-level predicted zoonoses map
25	19. country-level relative EID risk map, 49. country-level predicted zoonoses map
26	20. country-level relative EID risk map, 50. country-level predicted zoonoses map
27	21. country-level relative EID risk map, 51. country-level predicted zoonoses map
28	22. country-level relative EID risk map, 52. country-level predicted zoonoses map
29	23. country-level relative EID risk map, 53. country-level predicted zoonoses map, 73. bat-palm sap overlap
30	24. country-level relative EID risk map, 54. country-level predicted zoonoses map
31	25. country-level relative EID risk map, 55. country-level predicted zoonoses map, 78. viral sampling site prioritization
32	26. country-level relative EID risk map, 56. country-level predicted zoonoses map
33	
34	27. country-level relative EID risk map, 57. country-level predicted zoonoses map
35	28. country-level relative EID risk map, 58. country-level predicted zoonoses map
36	76-77. Viral species accumulation per viral family
37	79. Global distribution of wild mammals in PREDICT countries
38	80. Aggregated global mammalian livestock density
39	81. Global map of land-use

	A	B	C	D
40	GLOBAL			
41				
42				
43				
44	TOTAL	42	4	42
45				
46	*for the period 10/1/17-9/30/18 ONLY			

	E
40	82. Refined seasonal model of viral shedding in bats
41	83. Modeling the effect of reproduction on viral detection across three mammalian orders.
42	84. Spillover along land use gradients in Deep Forest countries
43	85-88. Distribution of antimicrobial disease emergence
44	
45	
46	

	A	B	C
1		<b>*Cumulative - indicate year</b>	
2	Indicator 1.1	<b>Describe each risk factor/interface characterized that is associated with spillover, amplification, and/or spread (include information on risk factor/interface type and contribution/association with spillover, amplification and/or spread, also indicate animal/human vs animal/animal and country)</b>	<b>List Publication or reference if possible</b>
3	State Country or G	<b>Risk factor/interface description</b>	
4	China	Bats are host to a diverse array of viruses shed in feces (host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y1)	
5	China	Rodents are host to a diverse array of viruses shed in feces (host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y1)	
6	China	Contact with poultry is a risk factor for infection with Influenza A/H7N9 among children in 2013-2014 (host factor and high-risk interface linked to animal to human spillover, based on PREDICT data) (Y1)	
7	China	Contact with poultry feces, chopping/butchering boards, and cage surfaces is a risk factor for infection with Influenza A/H7N9 (host/environmental risk factor and high-risk interface linked to animal to human spillover, based on PREDICT data) (Y1)	
8	China	Small mammals are host to high prevalence of viruses in the hantavirus family (host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y2)	X-Y Ge, W-H Yang, H. Pan, J-H Zhou, X. Han, G-J Zhu, J.S. Desmond, P. Daszak, Z-L Shi, Y-Z Zhang. 2016. Fugong virus, a novel hantavirus barboored by the small oriental vole (Eothenomys eleusis) in China. · Virology Journal · 13:27. doi: 10.1186/s12985-016-0483-9
9	Bangladesh	Co-infections influence viral occurrence (agent risk factor linked to potential for spillover; based on PREDICT data) (Y1)	
10	Bangladesh	Primates in an urban setting are host to a diverse array of viruses that are shed in feces (host risk factor and high-risk interface linked to potential for animal to human spillover; based on PREDICT data) (Y1)	
11	DRC	Human contact with primates in intensive conservation management situations facilitates disease transmisison between humans and primates (host/environmental risk factors and high-risk interface linked to anthroprozoonotic spillover, based on PREDICT data) (Y1)	
12	Malaysia	Human contact with primates in intensive management to mitigate human-macaque conflict is a potential risk factor for spillover of macacine herpesvirus 1 (B virus) (host/environmental risk factors and high-risk interfaces linked to animal to human spillover, based on PREDICT data) (Y1)	Lee, M.H., Rostal, M.K., Hughes, T., Sitam, F., Lee, C.Y., Japning, J., Harden, M.E., Griffiths, A., Basir, M., Wolfe, N.D. and Epstein, J.H., 2015. Macacine Herpesvirus 1 in Long-Tailed Macaques, Malaysia, 2009–2011. Emerging infectious diseases, 21(7), p.1107.
13	RoC	Butchering fruit bats is a significant risk factors for zoonotic spillover of henipavirus (host/environmental risk factors and high-risk interfaces linked to animal to human spillover, based on PREDICT data) (Y1)	Weiss, S., Nowak, K., Fahr, J., Wibbelt, G., Mombouli, J.V., Parra, H.J., Wolfe, N.D., Schneider, B.S. and Leendertz, F., 2012. Henipavirus-related sequences in fruit bat bushmeat,.
14	Cameroon	Butchering fruit bats and living in areas undergoing deforestation are significant risk factors for zoonotic spillover of henipavirus (host/environmental risk factors and high-risk interfaces linked to animal to human spillover, based on PREDICT data) (Y1)	Pernet O, Schneider BS, Beaty SM, LeBreton M, Yun TE, Park A, Zachariah TT, Bowden TA, Hitchens P, Ramirez CM, Daszak P. Evidence for henipavirus spillover into human populations in Africa. Nature communications. 2014 Nov 18;5.

	D	E	F	G	H
1					
2	Risk Factor or Risk Inter	<b>Classify as: New characteriztaion/in progress/complete</b>			
3		complete			
4	Risk Factor	complete			
5	Risk Factor	complete			
6	both	complete			
7	both	complete			
8	Risk Factor	complete			
9	Risk Factor	complete			
10	both	complete			
11	both	complete			
12	both	complete			
13	both	complete			
14	both	complete			



	A	B	C
15	RoC	Primates in intensive management are host to a diverse array of viruses that are shed in feces (host risk factor linked to potential for spillover; based on PREDICT data) (Y1)	
16	Philippines (Place)	A range of bat species are host to Reston ebolavirus and pose a risk for spillover to humans (host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y1)	Jayme, S.I., Field, H.E., de Jong, C., Olival, K.J., Marsh, G., Tagtag, A.M., Hughes, T., Bucad, A.C., Barr, J., Azul, R.R. and Retes, L.M., 2015. Molecular evidence of Ebola Reston virus infection in Philippine bats. <i>Virology journal</i> , 12(1), p.107.
17	Thailand	A range of bat species are host to a diverse array of fecally shed coronaviruses that pose a risk for spillover to humans (host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y1)	Wacharapluesadee, S., Duengkae, P., Rodpan, A., Kaewpom, T., Maneeorn, P., Kanchanasaka, B., Yingsakmongkon, S., Sittidetboripat, N., Chareesaen, C., Khlangsap, N. and Pidthong, A., 2015. Diversity of coronavirus in bats from Eastern Thailand. <i>Virology journal</i> , 12(1), p.57.
18	Global	RNA viruses are more likely to spillover from animals to humans than DNA virus (agent risk factor linked to animal to human spillover, based on in-depth literature review of all known zoonotic viruses) (Y1)	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. <i>Scientific reports</i> , 5, p.14830.
19	Global	Viruses with high host plasticity (i.e. viruses able to infect hosts from a large number of taxonomic orders) are more likely to be transmissible human-to-human (agent risk factor linked to potential for amplification and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. <i>Scientific reports</i> , 5, p.14830.
20	Global	Wild animals are the documented source of 91% of zoonotic viruses recognized to date (host risk factor linked to spillover, based on in-depth literature review of all known zoonotic viruses) (Y1)	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. <i>Scientific reports</i> , 5, p.14830.
21	Global	Zoonotic viruses reported in domesticated species had higher host plasticity (agent/host risk factors linked to animal to animal amplification and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. <i>Scientific reports</i> , 5, p.14830.
22	Global	Vector-borne zoonotic viruses found in wildlife had higher host plasticity (agent risk factor linked to animal to animal and animal to human spillover and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. <i>Scientific reports</i> , 5, p.14830.

	D	E	F	G	H
15	Risk Factor	complete			
16	<i>Risk Factor</i>	complete			
17	Risk Factor	complete			
18	Risk Factor	complete			
19	Risk Factor	complete			
20	Risk Factor	complete			
21	Risk Factor	complete			
22	Risk Factor	complete			

	A	B	C
23	Global	Human direct contact with wild animals kept as pets, maintained in sanctuaries or zoos, and sold at markets, had higher host plasticity (host/environmental risk factors and high-risk interface linked to animal to human spillover and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, p.14830.
24	Global	Human direct contact with wild animals in and around human dwellings and in agricultural fields (mainly rodent hosts as reported to date) has facilitated spillover of zoonotic viruses (host/environmental risk factors and high-risk interface linked to animal to human spillover and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, p.14830.
25	Global	Human direct contact with wildlife by hunting and consumption facilitates spillover of viruses with human-to-human transmissibility (agent/environmental risk factors and high-risk interface linked to animal to human spillover and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, p.14830.
26	Global	Zoonotic viruses in the arenaviridae and filoviridae families are more likely to be human-to-human transmissible (agent/environmental risk factors linked to animal to human spillover and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, p.14830.
27	Global	First emergence of viral diseases was most often reported as vector-borne transmission, followed by airborne transmission and then direct contact (agent risk factor linked to potential spillover or spread, based on in-depth literature review of past emerging disease events) (Y1)	
28	Global	First emergence of zoonotic diseases were most commonly associated with land use change, agricultural industry change, and international travel/commerce (environmental risk factor linked to potential animal to human spillover or spread, based on in-depth literature review of past emerging disease events) (Y1)	
29	Rwanda AND Uganda (Placed in both countries)	Primates in intensive management are host to viruses that are shed in saliva (host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y2)	T. Smiley Evans, K. Gilardi, P. Barry, B. Ssebide, J. Kinani, F. Nizeyimana, J. Noheri, D. Byarugaba, A. Mudakikwa, M. Cranfield, J.A.K. Mazet, C.K. Johnson. 2016 Detection of viruses using discarded plants from wild mountain gorillas and golden monkeys. American Journal of Primatology, doi: 10.1002/ajp.22576.
30	Global	Human direct contact with high volumes of wildlife from high-risk taxa by hunting and consumption and poor biosafety increases the potential for zoonotic pathogen presence and transmission (agent/environmental risk factors linked to animal to human spillover and spread, based on PREDICT data) (Y2)	Z.F. Grootorenx, S.H. Olson, S. Singhalath, S. Silihamavong, A.E. Fine, W. Weisman, B. Douangngeun, W. Theppangna, L. Keatts, M. Gilbert, W.B. Karesh, T. Hansel, S. Zimicki, K. O'Rourke, D.O. Joly, J.A.K. Mazet. 2016. Wildlife trade and human health in Lao PDR: An assessment of the zoonotic disease risk in markets. PLOS One. doi: 10.1371/journal.pone.0150666

	D	E	F	G	H
23	both	complete			
24	both	complete			
25	both	complete			
26	Risk Factor	complete			
27	Risk Factor	complete			
28	Risk Factor	complete			
29	Risk Factor	complete			
30	both	complete			

	A	B	C
31	Global	Bats are host to a diversity of viruses in the paramyxo-, adeno-, herpes-, astro-, and coronavirus families (host/agent risk factors linked to potential animal to animal or animal to human spillover, based on in-depth literature review of all known zoonotic viruses) (Y2)	C.C.W. Young, K.J. Olival. 2016. Optimizing Viral Discovery in Bats. PLOS One 11:2. doi: 10.1371/journal.pone.0149237
32	Global	Drivers of viral richness (host diversity and climactic variability) and transmission opportunity (human population density, bushmeat hunting, and livestock production) are associated with virus sharing between humans and bats (host/virus risk factor linked to animal to human spillover and spread; based on in-depth literature review of all known zoonotic bat viruses) (Y2)	L. Brierley, M.J. Vonhof, K.J. Olival, P. Daszak, K.E. Jones. 2016. Quantifying global drivers of zoonotic bat viruses: A process-based perspective. The American Naturalist, 187 (2). doi: 10.1086/684391
33	Lao PDR, Cambodia	Bats are host to astroviruses shed in feces. Astroviruses are distributed widely and some have been identified as a cause of gastroenteritis in humans and other mammals. Wildlife species living close to human habitats could represent a risk for transmission of astroviruses to humans and domestic animals (agent/host risk factor linked to potential for spillover; based on PREDICT data) (Y3)	A. Lacroix, V. Duong, V. Hul, S. San, H. Davun, K. Omaliss, S. Chea, A. Hassanin, W. Theppangna, S. Silihamavong, K. Khammavong, S. Singhalath, A. Afelt, Z. Grotorex, A.E. Fine, T. Goldstein, S. Olson, D.O. Joly, L. Keatts, P. Dussart, R. Frutos, P. Buchy. 2017. Diversity of bat astroviruses in Lao PDR and Cambodia. Infection, Genetics and Evolution, 47: 41-50. doi: 10.1016/j.meegid.2016.11.013
34	Lao PDR, Cambodia	Bats are host to a diverse array of coronaviruses (coronaviruses of animal origin were responsible for the Severe Acute Respiratory Syndrome [SARS] outbreak in 2003–2004 and the current epidemics of Middle Eastern Respiratory Syndrome [MERS] in the Arabian Peninsula and Korea). Findings are of importance for public health as Lao PDR and Cambodia have a high biodiversity of bats, often at high-risk interfaces in close proximity to people (agent/host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y3)	Lacroix, A., Duong, V., Hul, V., San, S., Davun, H., Omaliss, K., Chea, S., Hassanin, A., Theppangna, W., Silihamavong, S. and Khammavong, K. 2017. Genetic diversity of coronaviruses in bats in Lao PDR and Cambodia. Infection, Genetics and Evolution, 48, pp.10-18.
35	China	Bats are hosts to novel filoviruses in China. Findings suggest that these viruses have been circulating in the 2 bat species and that densely populated bat caves provide opportunity for cross-species infection with different viruses. Considering their feeding habitats, fruit bats are often in close contact with domestic animals and human populations (host risk factor linked to potential for animal to animal or animal to human spillover; based on PREDICT data) (Y3)	Yang, X.L., Zhang, Y.Z., Jiang, R.D., Guo, H., Zhang, W., Li, B., Wang, N., Wang, L., Waruhiu, C., Zhou, J.H. and Li, S.Y., 2017. Genetically Diverse Filoviruses in Rousettus and Eonycteris spp. Bats, China, 2009 and 2015. Emerging Infectious Diseases, 23(3), p.482.
36	Global	The expanding international wildlife trade combined with a lack of surveillance for key animal diseases in most countries represents a potential pathway for transboundary disease movement (host/agent risk factors linked to potential animal to animal or animal to human spillover, based on in-depth literature review of reports of OIE-listed terrestrial animal diseases in wild animals) (Y3)	Smith, K.M., Machalaba, C.M., Jones, H., Cáceres, P., Popovic, M., Olival, K.J., Ben Jebara, K. and Karesh, W.B., 2017. Wildlife hosts for OIE-Listed diseases: considerations regarding global wildlife trade and host–pathogen relationships. Veterinary Medicine and Science.
37	Global	The number of declared wildlife shipments into the USA has doubled since 2000, illustrating continually increasing demand, which reinforces the need to scale up capacity for border inspections, risk management protocols and disease surveillance (host/agent risk factors linked to potential animal to animal or animal to human spillover, based on comprehensive data US Fish and Wildlife Services database) (Y3)	Smith, K.M., Zambrana-Torrel, C., White, A., Asmussen, M., Machalaba, C., Kennedy, S., Lopez, K., Wolf, T.M., Daszak, P., Travis, D.A. and Karesh, W.B., 2017. Summarizing US Wildlife Trade with an Eye Toward Assessing the Risk of Infectious Disease Introduction. EcoHealth, 14(1), pp.29-39.

	D	E	F	G	H
31	Risk Factor	complete			
32	Risk Factor	complete			
33	Risk factor	complete			
34	Risk factor	complete			
35	Risk factor	complete			
36	Risk factor	complete			
37	Risk factor	complete			

	A	B	C
38	Global	Bats are host to a diversity of viruses in the coronavirus (CoVs) family, and global diversity and distribution of CoVs in bats is non-random and is driven by variation in the biogeography of bats (host/agent risk factors linked to potential animal to animal or animal to human spillover; based on PREDICT data) (Y3)	Anthony, S.J., Johnson, C.K., Greig, D.J., Kramer, S., Wells, H., Hicks, A., Joly, D., Wolfe, N., Daszak, P., Karesh, W., Lipkin, W.I., Morse, S.S., PREDICT Consortium, Mazet, J.A.K., Goldstein, T., 2017. Global patterns in coronavirus diversity.
39	Bangladesh	Nipah virus was found in Indian flying foxes outside of the area currently recognized to be experiencing recurring outbreaks of Nipah virus in humans, suggesting spillover is possible wherever humans interact with Indian flying foxes. Human activities such as date palm sap harvesting, concurrent with viral circulation in local bat populations, are major drivers of human outbreaks in Bangladesh (host/agent risk factor and high-risk interface linked to potential animal to animal or animal to human spillover; based on PREDICT data) (Y3)	Epstein, J.H., Anthony, S.J., Islam, A., Kilpatrick, A.M., Khan, S.A., Ross, N., Smith, I., Barr, J., Zambrana-Torrel, C., Tao, Y. and Quan, P.L., 2016. Nipah virus ecology and infection dynamics in its bat reservoir, <i>Pteropus medius</i> , in Bangladesh. <i>International Journal of Infectious Diseases</i> , 53, pp.20-21.
40	Egypt	High MERS-CoV seroprevalence and the presence of active viral infection circulating in imported and resident camels are indications that MERS-CoV may have become ubiquitous in Egypt. Transport stress and close vicinity of imported camels during transport may precipitate disease dissemination, particularly in animals with latent infection and carrier animals (host/agent risk factor and high-risk interface linked to potential animal to human spillover) (Y3)	Ali M, El-Shesheny R, Kandell A, Shehata M, Elsokary B, Gomaa M, Hassan N, El Sayed A, El-Taweel A, Sobhy H, Oludayo FF. Cross-sectional surveillance of Middle East respiratory syndrome coronavirus (MERS-CoV) in dromedary camels and other mammals in Egypt, August 2015 to January 2016. <i>Eurosurveillance</i> . 2017 Mar 16;22(11).
41	Uganda/Global	MERS-related CoVs are highly associated with bats and are geographically widespread (host risk factor linked to potential for animal to human spillover) (Y3)	Anthony SJ, Gilardi K, Menachery VD, Goldstein T, Ssebidde B, Mbabazi R, Navarrete-Macias I, Liang E, Wells H, Hicks A, Petrosov A. Further Evidence for Bats as the Evolutionary Source of Middle East Respiratory Syndrome Coronavirus. <i>mBio</i> . 2017 May 3;8(2):e00373-17.
42	Global	Risk of emerging infectious zoonotic disease is elevated in forested tropical regions experiencing land-use changes, especially where wildlife biodiversity (mammal species richness) is high (host/environmental risk factor and high-risk interface linked to animal to human spillover, based on global data) (Y3)	Allen, T., Murray, K. A., Zambrana-Torrel, C., Morse, S. S., Rondinini, C., Di Marco, M., ... & Daszak, P. (2017). Global hotspots and correlates of emerging zoonotic diseases. <i>Nature Communications</i> , 8(1), 1124.
43	Global	Cave-roosting bat species exhibit a greater likelihood of viral sharing within caves (host risk factor linked to potential for animal to animal or animal to human spillover, based on global data and PREDICT 1 data) (Y3)	Willoughby, A. R., K. L. Phelps, PREDICT Consortium & K. J. Olival. A Comparative Analysis of Viral Richness and Viral Sharing in Cave-Roosting Bats. (2017). <i>Diversity</i> , 9, 35;
44	Global	The proportion of known zoonotic viruses per species is predicted by phylogenetic relatedness to humans, host taxonomy (bats harbor a significantly higher proportion of zoonotic viruses than all other mammalian orders), and human population within a species range --which may reflect human-wildlife contact (host risk interface linked to potential for animal to human spillover, based on global data) (Y3)	Olival, K. J., Hosseini, P. R., Zambrana-Torrel, C., Ross, N., Bogich, T. L., & Daszak, P. (2017). Host and viral traits predict zoonotic spillover from mammals. <i>Nature</i> , 546(7660), 646-650.

	D	E	F	G	H
38	Risk factor	complete			
39	both	complete			
40	both	complete			
41	Risk Factor	complete			
42	both	complete			
43	risk factor	complete			
44	risk interface	complete			



	A	B	C
45	China	Swine acute diarrhoea syndrome coronavirus (SADS-CoV), responsible for a large-scale outbreak of fatal disease in pigs in China, was identified in horseshoe bats ( <i>Rhinolophus</i> spp.) in Guangdong province during 2013–2016. Horseshoe bats ( <i>Rhinolophus</i> spp.) are known reservoirs of SARS- and HKU-2 related CoVs. Viral sharing between bats and swine are host/agent risk factors linked to animal to animal spillover with potential for animal to human spillover. Geographical, temporal, and ecological settings similar to SARS outbreaks at high risk interfaces are noted (Y4).	Zhou, Peng, et al. "Fatal swine acute diarrhoea syndrome caused by an HKU2-related coronavirus of bat origin." <i>Nature</i> (2018): 1.
46	Global	Human modification of the environment serves as an underlying driver in emerging infectious disease risk. Environmental change warrants consideration in surveillance and outbreak investigations to identify the origin of the disease and contribute to the development of effective actions to prevent, prepare for or reduce the risk of future events (risk interface linked to potential for animal to human spillover, based on literature review) (Y4).	Machalaba C, Karesh WB. Emerging infectious disease risk: shared drivers with environmental change. <i>Revue scientifique et technique-office international des epizooties</i> . 2017 Aug 1;36(2):435-44.
47	Global	Dromedary camels are bred domestically and imported into Bangladesh. In 2015, of 55 camels tested for Middle East respiratory syndrome coronavirus in Dhaka, 17 (31%) were seropositive, including 1 bred locally (host/agent risk factors linked to potential animal to animal or animal to human spillover; based on PREDICT data). Infected camels in urban markets could have public health implications and warrants further investigation (host risk interface linked to potential for animal to human spillover, based on global data) (Y4).	Islam A, Epstein JH, Rostal MK, Islam S, Rahman M, Hossain M, et al. Middle East Respiratory Syndrome Coronavirus Antibodies in Dromedary Camels, Bangladesh, 2015. <i>Emerg Infect Dis</i> . 2018;24(5):926-928.
48	DRC	Bocaparvoviruses are members of the family Parvoviridae and human bocaviruses have been associated with respiratory and gastrointestinal disease. Bocavirus DNA was found in blood and tissues samples in 6 out of 620 non-human primates in the Democratic Republic of the Congo. All isolates showed very high identity (>97%) with human bocaviruses 2 or 3, suggesting cross-species transmission of bocaviruses between humans and NHPs (host/agent risk factors linked to potential animal to human spillover) (Y4).	Kumakamba C, Lukusa IN, Kingebeni PM, N'Kawa F, Losoma JA, Mulembakani PM, Makuwa M, Tamfum JJ, Belais R, Gillis A, Harris S. DNA indicative of human bocaviruses detected in non-human primates in the Democratic Republic of the Congo. <i>Journal of General Virology</i> . 2018 Mar 27.
49	China	Of 218 residents who live in close proximity to caves inhabited by large numbers of <i>Rhinolophid</i> bats (a major reservoir of SARS-CoVs in China), 2.7% people showed seropositivity to SARS-like CoVs (host/environmental risk factors and high-risk interface linked to spillover, based on PREDICT data) (Y4).	Wang N, Li SY, Yang XL, Huang HM, Zhang YJ, Guo H, Luo CM, Miller M, Zhu G, Chmura AA, Hagan E. Serological evidence of bat SARS-related coronavirus infection in humans, China. <i>Virologica Sinica</i> . 2018 Feb 1;33(1):104-7.
50	Uganda	Contact with duikers is a risk factor associated with exposure to Ebolavirus in humans in Southwestern Uganda. Hunting primates and contact with and/or eating cane rats are risk factors for exposure to the Sudan ebolavirus (host/environmental risk factors linked to spillover, based on PREDICT data) (Y4).	Smiley Evans T, Tutaryebwa L, Gilardi KV, Barry PA, Marzi A, Eberhart M, Ssebide B, Cranfield MR, Mugisha O, Mugisha E, Kellermann S. Suspected Exposure to Filoviruses Among People Contacting Wildlife in Southwestern Uganda. <i>The Journal of Infectious Diseases</i> . 2018 Jun 18.
51	Sierra Leone	Discovery of Bombali virus in two species of free-ranging bats provides strong evidence that bats serve as hosts for ebolaviruses, and that additional unknown ebolaviruses may exist in wildlife (host/environmental risk factors and high-risk interface linked to spillover, based on PREDICT data) (Y4).	Goldstein T, Anthony SJ, Gbakima A, Bird BH, Bangura J, Tremeau-Bravard A, Belagana Halli MN, Wells HL, Dhanota JK, Liang E, Grodus M. The discovery of Bombali virus adds further support for bats as hosts of ebolaviruses. <i>Nature microbiology</i> . 2018 Oct;3(10):1084.
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	D	E	F	G	H
45	both	complete			
46	risk interface	complete			
47	both	complete			
48	risk factor	complete			
49	both	complete			
50	risk factor	complete			
51	both	complete			
52				TOTAL	48
53					

	A	B
1	<b>Indicator 1.1d</b>	<b>Provide a list and brief description of each intervention point that has been prioritized to inform the development of risk mitigation approaches (information should describe the intervention point's characteristics, an explanation on how it was identified and why it was prioritized; include country information)</b>
2	<b>Indicate Country or Global</b>	
3	Bangladesh	
4	Cambodia	
5	Cameroon	
6	China	
7	Cote d'Ivoire	
8	Democratic Republic of Congo	
9	Egypt	
10	Ethiopia	
11	Ghana	
12	Guinea	
13	India	
14	Indonesia	
15	Jordan	
16	Kenya	
17	Lao PDR	
18	Liberia	
19	Malaysia	
20	Mongolia	
21	Myanmar	
22	Nepal	
23	Republic of Congo (RoC)	
24	Rwanda	
25	Senegal	
26	Sierra Leone	
27	Tanzania	
28	Thailand	
29	Uganda	
30	Viet Nam	
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36	<b>*for the period 10/1/17-9/30/18 ONLY</b>	

	A	B	C	D	E	F	G	H	I
1	<b>Indicator 1.2a</b>	<b>YEAR 4 DATA (10/01/17 - 03/31/18)</b>							
2		Total # Labs Targeted for PREDICT viral family testing	# of labs in the country obtaining training or preparing to test for the 4 priority viral family protocols	# of labs in the country with the ability to perform testing for the 4 priority viral family PREDICT protocols	Proportion of labs that can do viral family testing	# of tests performed (# of tests performed by lab, for each virus, viral family, prioritized pathogen and/or AMR/antimicrobial quality test	Notes		
3	<b>AFRICA</b>							<b>126,384</b>	
4	Cameroon	2	1	1	50%	Total Number tests: 29153 Tests by Viral family: Corona - 9150 Paramyxio - 4577 Filo - 5120 Influenza - 9151 Flavi - 1155			
5	Cote d'Ivoire	2	2	0	100%	Total Number tests: 604 Corona - 276 Filo - 328	Both labs now testing for one or two viral families		
6	DRC	1	0	1	100%	Total Number tests: 12856 Tests by Viral family: Corona - 3960 Paramyxio - 1784 Filo - 1875 Flavi - 1419 Influenza - 3802 Arenavirus - 2 Rhabdo - 2 Orthobunya - 12			
7	Ethiopia	2	1	1	50%	Total Number tests: 444 Tests by Viral family: Corona - 74 Filo - 74 Flavi - 74 Influenza - 148 Paramyxio - 74	One lab now testing for all 5 viral families		
8	Ghana	2	0	2	100%	Total Number tests: 360 Tests by Viral family: Corona - 444 Filo - 222 Paramyxio - 222 Influenza - 444	Both labs now testing for 4 viral families		

	A	B	C	D	E	F	G	H	I
9	Guinea	1	1	0	0%	Total Number tests: 16777 Tests by Viral family: Filo - 3392 Ebola virus - 3392 Ebola Zaire - 6784 Other Ebola - 3209	NOTE: Current results from testing performed at UCD in USA; In-country lab is performing testing for filovirus family		
10	Kenya	2	0	2	100%	Total Number tests: 304 Tests by Viral family: Corona - 1716 Filo - 229 Paramyxo - 973 Influenza - 973	Both labs now testing for 4 viral families		
11	Liberia	1	1	0	0%	Total Number tests: 12000 Tests by Viral family: Filo - 3000 Ebola virus - 3000 Ebola Zaire - 6000	NOTE: Testing done at CII in USA ; In-country lab is training to perform testing for filovirus family		
12	RoC	1	0	0	0%	N/A	NOTE: Previous testing done at INRB in DRC, In- country training is planned		
13	Rwanda	2	1	1	50%	Total Number tests: 2957 Tests by Viral family: Corona - 876 Paramyxo - 438 Filo - 438 Influenza - 876 Flavi - 329	UCD is also performing testing to help meet goals		
14	Senegal	2	0	2	100%	Total Number tests: 3494 Tests by Viral family: Corona - 950 Paramyxo - 522 Filo - 419 Influenza - 1044 Flavi - 559	Both labs now testing for 5 viral families		
15	Sierra Leone	1	1	0	0%	Total Number tests: 29160 Tests by Viral family: Filo - 5832 Ebola virus - 5832 Ebola Zaire - 11664 Other Ebola - 5832	NOTE: Current results from UCD in USA; In-country lab is performing testing for filovirus family		

	A	B	C	D	E	F	G	H	I
16	Tanzania	2	0	2	100%	Total Number tests: 14972 Tests by Viral family: Corona - 4314 Paramyxo - 2157 Filo - 2112 Flavi - 2120 Influenza - 4269			
17	Uganda	1	0	1	100%	Total Number tests: 3303 Tests by Viral family: Corona - 367 Paramyxo - 367 Filo - 367 Flavi - 367 Influenza - 734 Arena - 367 Rhabdo - 367 Orthobunya - 367	Lab now testing for 8 viral families		
18	ASIA							166,742	
19	Bangladesh	2	0	2	100%	Total Number tests: 31304 Tests by Viral family: Corona - 9345 Paramyxo - 4329 Filo - 4329 Flavi - 3844 Influenza - 9345 Other - 112	Both labs now testing for 5 viral families		
20	Cambodia	3	2	1	33%	Total Number tests: 46344 Tests by Viral family: Corona - 9097 Paramyxo - 5735 Filo - 5306 Flavi - 5335 Influenza - 9324 Alpha - 1018 Orthobunya - 4118 Rhabdo - 3162 Hanta - 3249			
21	China	4	2	2	50%	Total Number tests: 12185 Tests by Viral family: Corona - 2437 Paramyxo - 2437 Filo - 2437 Flavi - 2437 Influenza - 2437			

	A	B	C	D	E	F	G	H	I
22	India	1	0	1	100%	Total Number tests: 182 Tests by Viral family: Corona - 52 Paramyxo - 26 Filo - 26 Flavi - 26 Influenza - 52	Lab now testing for 5 viral families		
23	Indonesia	3	1	2	67%	Total Number tests: 24214 Tests by Viral family: Corona - 5806 Paramyxo - 5423 Filo - 3342 Flavi - 3398 Influenza - 6245	Eijkman Lab is currently not testing for Flaviviruses		
24	Lao PDR	2	1	1	50%	Total Number tests: 5356 Tests by Viral family: Corona - 1816 Paramyxo - 658 Filo - 908 Flavi - 658 Influenza - 1316			
25	Malaysia	5	1	4	80%	Total Number tests: 11759 Tests by Viral family: Corona - 5255 Paramyxo - 2628 Filo - 2628 Flavi - 2628 Influenza - 5272	Four labs now testing for 5 viral families		
26	Mongolia	1	1	0	0%	Total Number tests: 1600 Tests by Viral family: Influenza - 1600	Plan is only to perform influenza and the lab is doing so		
27	Myanmar	2	0	2	100%	Total Number tests: 7154 Tests by Viral family: Corona - 2205 Paramyxo - 1123 Filo - 1123 Flavi - 457 Influenza - 2246	Testing also done at UCD in USA, Two in-country labs now testing for 4 viral families		

	A	B	C	D	E	F	G	H	I
28	Nepal	2	1	1	50%	Total Number tests: 9695 Tests by Viral family: Corona - 2770 Paramyxo - 1385 Filo - 1385 Flavi - 1385 Influenza - 2770			
29	Thailand	2	0	2	100%	Total Number tests: 8379 Tests by Viral family: Corona - 1648 Paramyxo - 1536 Filo - 1536 Flavi - 1536 Influenza - 1536 Hanta - 484 Other - 103			
30	Vietnam	5	2	3	60%	Total Number tests: 8570 Tests by Viral family: Corona - 2460 Paramyxo - 1230 Filo - 1230 Flavi - 1228 Influenza - 2422			
31	MIDDLE EAST							10,861	
32	Egypt	1	1	0	0%	Total Number tests: 3606 Tests by Viral family: Corona - 1202 Influenza - 2404 Flavi - 1202	Lab is currently testing for 3 viral families		
33	Jordan	1	0	1	100%	Total Number tests: 7255 Tests by Viral family: Corona - 2902 Paramyxo - 1451 Filo - 1451 Influenza - 1451	Lab is currently not testing for Flaviviruses		
34								Total tests performed	
35	TOTAL	20	35					303,987	
36	*for the period 10/1/17-9/30/18 ONLY								
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	A	B	C	D	E	F	G
1	INDICATOR CHANGE	Animal		Human			
2	Indicator 1.2e	# days from sample collection to PREDICT testing result (confirmation)	# days from PREDICT testing result (confirmation) to national-level report	# days from sample collection to PREDICT testing result (confirmation)	# days from PREDICT testing result (confirmation) to national-level report	# days from sample collection to non-PREDICT testing result (confirmation)	# of days from government request for PREDICT assistance to PREDICT activity (assistance)
3	AFRICA	ANIMAL OUTBREAKS	HUMAN OUTBREAKS				
4	Ghana						1
5	Liberia						2
6	Democratic Republic of the Congo						2
7	Democratic Republic of the Congo						3
8	Democratic Republic of the Congo						
9	Democratic Republic of the Congo						

	H	I
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2	<p><b>QUALITATIVE INDICATOR: List/Description of outbreak support</b> (include country, disease, human or animal, month and year based on sample collection date, important dates, type of support provided, any after action reviews) - qualitative context for numbers provided only</p>	This indicator is Qualitative only so we do not report on cells B-G
3		
4	In February 2018, one person in the Greater Accra region developed symptoms consistent with viral hemorrhagic fever, presented to the hospital and later died. The patient was confirmed by laboratory testing as Lassa fever virus infection. PREDICT assisted in field investigation for reservoir sampling, and captured and sampled from a total of 52 <i>Mastomys</i> sp. rodents and <i>Crocidura</i> sp. shrews, as well as testing for five priority viral families for PREDICT. The PREDICT field team engaged in staff refresher training and potential trip planning at the time of notification of the event, and prepared logistics and sampling plans over the next four days. The team departed to the investigation site the following day.	
5	In February 2018, 63 patients with mild to moderate diarrheal disease visited a local clinic in Margibi County. Epidemiological investigation suggested a point source event, and PREDICT provided logistical support to the Liberian Ministry of Health to transport outbreak investigators and supplies to the affected area. The PREDICT team provided logistical support to collaborators two days after they received notification and request for assistance for the event.	
6	In November 2017, one person in Bas-Uele province presented with symptoms consistent with viral hemorrhagic disease, and was isolated and recovered. Later, another patient presented with similar symptoms in Kinshasa and deceased. PREDICT provided assistance with testing of specimens from both patients after specific pathogen rule-out testing for ebolaviruses and Marburg virus. All five priority families for PREDICT, as well as arenaviruses and rhabdoviruses tested negative. The PREDICT team initiated laboratory testing on the same day that they received the specimens.	
7	In October to November 2017, an alert of cattle die-off was sent from the provincial Ministry of Agriculture, Fish and Livestock of Bas-Uele to the National Minister of Fishery and Livestock. More than 4000 cattle imported from outside of DRC died in Bas-Uele province with symptoms including diarrhea, weight-loss, swelling knees, chancre, and loss of hair on the tail. PREDICT provided testing of ten field-specimens for orthobunyaviruses in addition to the five priority virus families following PREDICT protocols, all of which were negative. Response to this event was coordinated and carried out by a multidisciplinary team including PREDICT, Ministry of Fishery and Livestock, FAO, and LABOVET.	
8	Two people from the same family developed symptoms consistent with viral hemorrhagic fever and died in Bas-Uelé province, Northern DRC. Following request from Institut National de Recherche Biomédicale (INRB), PREDICT tested clinical specimens using PREDICT priority virus family protocols. The PREDICT laboratory team completed testing two days after receiving the specimens.	
9	Suspected cases of viral hemorrhagic fever, later confirmed as Ebola virus disease were reported in Equateur province, Western DRC. A total of 66 cases were notified from four health zones. PREDICT assisted with laboratory testing on patient specimens using the PREDICT viral family PCR protocols.	

	A	B	C	D	E	F	G
10	Democratic Republic of the Congo						
11	ASIA						
12	Bangladesh						1
13	Bangladesh						1
14	Mongolia						
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17	<b>*for the period 10/1/17-9/30/18 ONLY</b>						
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10	Suspected cases of viral hemorrhagic fever, later confirmed as Ebola virus disease were reported in North Kivu province, North Eastern DRC. As of December 4, 2018, approximately 440 confirmed cases and over 260 deaths have been reported. PREDICT supported partner organizations' outbreak activities by donating Personal Protective Equipment (PPE).	
11		
12	In February 2018, two people in Bogra district presented with symptoms consistent with encephalitis and later died. Both had a history of drinking raw date palm sap. The PREDICT field investigation team was deployed to the outbreak site and collected 89 urine and 93 feces specimens from <i>Pteropus</i> bat roosts, half eaten palm fruit, as well as ecological information from the site. Specimens were tested for five priority viral families for PREDICT. The field team was deployed one day after receiving request from the government.	
13	In November 2017, the PREDICT field team observed neurological symptoms, diarrhea and unusual mortality in crows ( <i>Corvus splendens</i> ) in Dhaka city during their routine field work. In January and February in 2017, PREDICT investigated a crow mortality event at the same site. After receiving a request for outbreak support by the Government of Bangladesh, the PREDICT wildlife field team and the Department of Livestock Services collected samples from crows from two sites and provided technical advice to the Institute of Epidemiology, Disease Control and Research. The crow specimens were tested for five priority viral families for PREDICT. Routine work by the PREDICT field team resulted in early detection of unusual events in wildlife, prompting quick and coordinated action. The field team was deployed one day after receiving request from the government.	
14	Local veterinarians reported a die-off of more than 3000 wild birds including Mongolian gulls and common shelducks around Sangiin Dalai Lake in Govi-Altay province, Western Mongolia. No other taxa were affected. PREDICT provided technical assistance as part of regularly scheduled field surveillance activities.	
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18	<b>supported 10 outbreaks in 5 countries</b>	
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1	INDICATOR CHANGE
2	Indicator 2B (Outcome Level)
3	AFRICA
4	Cameroon
5	Cote d'Ivoire

	B
1	
2	<b>Evidence of application of OH trainings and sensitization in the workforce (qualitative)</b>
3	
4	<p>1. PREDICT provided technical assistance to FAO and the Ministry of Livestock (MINEPIA) in April 2018, training 24 government staff from the Ministry of Wildlife (eco-guards) and the Ministry of Livestock (animal disease surveillance network) in wildlife disease surveillance. Training included classroom and field components, covering core One Health skills required by professionals engaging in zoonotic disease surveillance: biosafety and biosecurity, PPE use, safe capture and sampling of wildlife, cold chain, safe sample transport, and sampling protocols.</p> <p>2. PREDICT, alongside P&amp;R, FAO, and OHCEA, worked to sensitize the heads of the Universities of Cameroon, and senior officials from the Ministry of Higher Education (17th July 2018) and Ministry of Environment (17th August 2018) to the importance of the One Health approach and multisectoral collaboration to respond to infectious zoonosis disease.</p> <p>1. PREDICT/CIV One Health outreach aims at raising awareness in public health staff, but also in villagers, chiefs, technicians, wildlife rangers and persons working at risky transmission interfaces during daily, routine activities. The first step to achieve a One Health approach is to motivate these persons to understand each other's view point and work together. The PREDICT team participates in meetings held by the Technical Secretariat of GHSA, the institution in Côte d'Ivoire in charge of the coordination of the One Health task force. In November 2017, in order to better understand how the One Health approach and response is implemented and how PREDICT can contribute, the PREDICT CIV Country Coordinator organized meetings with principal actors and visiting Global lead staff. The delegation met with county authorities responsible for organizing the response and other relevant actors in the field (ministries, agencies and directions such as the Ivoirian Office of Parks and Reserves, Ministry of Fauna and Game Resources, the Direction o Veterinarian's Services, FAO, and P&amp;R). PREDICT/CIV collaborated with the Direction of Fauna and Game Resources, and the Direction of Veterinarian Services to help increase the capacity of the national surveillance system using a One Health approach. PREDICT is currently working with in-country USAID partners to define how to work together to promote the One Health approach. These meetings with USAID Partners take place quarterly; the last two meetings were held in December 2017 and March 2018. PREDICT/CIV also contributed expertise to the creation of the National Sanitary Security Plan.</p> <p>2. The PREDICT/CIV project has carried out a training and awareness session to contribute to the application of "One Health" in Côte d'Ivoire.</p> <p>3. From April 16th to April 28th , 2018, PREDICT/CIV staff, associated with external LANADA and IPCI staff members, were trained by PREDICT associated Columbia University researchers in viral screening techniques according to the PREDICT SOPs and protocols with a "One Health" perspective.</p> <p>4. From May 22nd to May 26th, 2018, twenty-six people from Ivorian government laboratory, institutions and ministries (IPCI, LANADA, the Directorate of Veterinary Services, the Directorate of Wildlife and Fisheries, the Abidjan Zoo) attended an exhaustive PREDICT surveillance training given by PREDICT scientists. The objective of this training session was to allow people from different institutions involved in "One Health" activities and research to meet and brainstorm around outbreak response and sampling protocols while being trained on all major PREDICT SOPs.</p> <p>5. PREDICT/CIV participated as a founding member in the creation of the Technical Working Group on Animal Health (GTTSA) in Côte d'Ivoire in Abidjan. During this meeting various invited parties including USAID worked on the developing the framework. PREDICT/CIV was invited as a founding member to participate in a workshop organized by the DSV on 3rd May 2018 with the aim of validating the texts of the GTTSA and reflecting on its action plan. Another meeting of the GTTSA was held on 25th September 2018 and PREDICT/CIV attended. The objective of the technical working group is to contribute to the strengthening of animal health management procedures as part of the "One Health" approach.</p> <p>6. On July 5th 2018, at the National Institute of Public Hygiene in Abidjan, the coordination meeting of the Global Health Security Agenda (GHSA) was held with the participation of PREDICT/CIV. The GHSA is coordinated in Côte d'Ivoire by the GHSA Technical Secretariat (ST-GHSA). The purpose of this meeting was to review the various health interventions in a</p>
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A	
6	Democratic Republic of Congo
7	Ethiopia
8	Ghana



	B
6	<p>1. The PREDICT/DRC laboratory team, located at the Institut National de Recherche Biomédicale (INRB), has been leading practical One Health training sessions for physicians, veterinarians and biologists enrolled in the Field Epidemiology Laboratory Training Program (FELTP) Masters program since 2016, providing integral molecular biology training for detection of zoonotic viral diseases. Since October 2017, PREDICT/DRC has provided training to 18 FELTP students, as well as 6 biologists from the Institute of Sciences and Medical Technologies of Kinshasa, and 4 physicians from the Department of Medical Biology at the University of Kinshasa. PREDICT protocols for sample collection and laboratory analysis, and mentorship provided by the PREDICT/DRC team, prepare FELTP graduates to be DRC's front line for outbreak investigations. This training provided by PREDICT/DRC strengthens DRC's capacity to respond to zoonotic diseases with a One Health approach, building the skills of those involved in initial field investigations, as well as developing professional capacity in the animal and human health sectors involved in laboratory analysis and response activities.</p> <p>2. PREDICT/DRC provided an internship to Dr. Grace Muyembe, a medical doctor with specialization in microbiology from the University of Kinshasa. Since March 2018, Dr. Muyembe has been mentored in PREDICT protocols, and gained valuable experience implementing consensus PCR for detection of zoonotic viruses. Dr. Muyembe's PREDICT training strengthens One Health capacity for disease detection in DRC, and supports a professional who will continue to mentor future members of the laboratory workforce in DRC.</p> <p>3. PREDICT/DRC provided laboratory diagnostics training to 20 Field Epidemiology Training Program (FELTP) students May 25-June 3, 2018. These graduate students were trained in PREDICT protocols for detecting viruses using consensus PCR, increasing DRC's capacity to implement disease surveillance and respond to outbreak events.</p> <p>4. As a very specific but highly One Health-relevant precaution, in response to the current EVD outbreak in North Kivu Province, refresher biosafety training was conducted for five Gorilla Doctors/PREDICT staff and four National Veterinary Laboratory staff in Goma. After the training, PREDICT established hand washing/sanitizing stations at the Lab's entry gate and at all main entrances to the offices (jointly occupied by PREDICT and the Government of DRC). All laboratory employees were also encouraged to set up hand washing/sanitizing stations in their homes: PREDICT provided kits for Gorilla Doctors employees, and the Goma Laboratory supplied their staff.</p>
7	<p>PREDICT/Ethiopia together with other EPT-2 partners and beyond participated in the establishment of OHSM. Ministry of Health; Ministry of Livestock and Fisheries; Ministry of Forestry, Environment and Climate Change and Ministry of Culture and Tourism (where Ethiopian Wildlife Conservation Authority is part of it) are stakeholders. The MoH (represented by EPHI), and a partner on PREDICT work in Ethiopia) was elected chairman and MoLF is the secretary of the OHSM establishment.</p>
8	<p>1. PREDICT/Ghana contributed to the investigation around a case of Lassa Fever in Ghana in March, 2018. In collaboration with the Ghana Health Service, the PREDICT Ghana team personnel from the Wildlife Division, Ministry of Land and Natural Resources and Veterinary Services Directorate, Ministry of Food and Agriculture conducted the field investigations, safely capturing and sampling rodents around two locations where the deceased patient resided during the four week period leading up to his illness and conducted human questionnaires in the local community. The team assisted the Ghana Health Service and the School of Public Health, University of Ghana with community sensitization and education on Lassa Fever. In total, the team captured 52 rodents in total and submitted the samples to the laboratory for testing using Lassa Fever specific molecular assays. PREDICT/Ghana provided the enhanced capacity for safe rodent capture and sampling as well as assessment of risk factors for exposure through application of the PREDICT human questionnaires. The government of Ghana views this effort as a One Health success story where personnel representing the three ministries worked collaboratively to investigate the circumstances of this case, including assessing rodent reservoirs of the virus around the residences of the deceased patient, and evaluating potential human practices and other risk factors that could put this community at greater risk of exposure. The team also worked closely with the Ghana Health Service and the School of Public Health to educate the community on Lassa Fever and strategies for reducing their risk. The One Health approach to this investigation served as the motivation for the PREDICT Ghana team members to network with institutions in other countries in West Africa to explore collaborations on Lassa Fever research.</p> <p>2. ISAVET Pre-Training Meeting , 11th October 2018 organized by the Food and Agriculture Organization of the United Nations (FAO), the Institute for Infectious Animal Diseases (IIAD), Texas A&amp;M University, and partners are initiating a Frontline level In Service Applied Veterinary Epidemiology Training (ISAVET), to address endemic, emerging infectious and transboundary animal diseases in 14 countries of West, Central and East Africa. The pilot training is being implemented through the Global Health Security Agenda (GHSA) initiative with support from the United States Agency for International Development (USAID). Given the need to ensure relevance of trainee field projects to the country animal health needs, a pre-meeting was held to bring together trainees, mentors and other relevant country-level stakeholders. The objectives of the meeting were:</p> <ul style="list-style-type: none"> <li>• For trainees, mentors, and other stakeholders to meet face-to-face before commencement of the planned Regional Pilot ISAVET training In Kampala, Uganda,</li> <li>• To identify a field project topic relevant to the country's animal health needs and,</li> <li>• To prepare a field project work plan for on-time delivery of the field project</li> </ul> <p>PREDICT/Ghana was invited to participate. The PREDICT Ghana Country Coordinator discussed PREDICT'S work on surveillance within the context of the One Health Agenda and discussed the project's capacity building activities in Ghana, including PREDICT's training on disease surveillance and virus detection. The coordinator also discussed the projects efforts on community engagement with local stakeholders at surveillance sites.</p> <p>3. PREDICT Ghana held an in-service training workshop for 4 staff members working at the Accra Veterinary Lab at the Veterinary Services Directorate, Ministry of Food and Agriculture on PPE and biosafety, Basic Laboratory Safety, and PREDICT viral detection protocols.</p>

	A
9	Guinea

	B
	<p>1. From November 2016 to the present, PREDICT/Guinea has been engaging and educating community members about zoonotic diseases and the risks of viral spillover at the animal-human interface. These community engagement meetings have increased the understanding of the importance of the animal-human interface, an essential key to preventing outbreaks of zoonotic disease. National stakeholders are invited to participate in these community engagement meetings. Their engagement in the PREDICT One Health approach influences national surveillance and health strategies. For example, they have reported back to the Department of Public Health the need of mass canine vaccination campaigns to control rabies in Guinea. A recent workshop (26-30 March 2018) to establish, "One Health approach to cost-effective rabies control in Guinea" put forth recommendations for veterinary surveillance of rabies and laboratory submission of reports of suspected animal cases to the department of Public Health for management of potential human exposures and for veterinarians to adopt appropriate measures towards animals in contact with a suspected animal case.</p> <p>2. May 14, 2018: PREDICT/Guinea participated in the National Forum on Learning for Resilience and Sustainable Development at the Noom Hotel in Conakry. The Forum, organized by USAID / Guinea, brought together partners from USAID, the Guinean government, beneficiaries, donors, civil society and the private sector to share lessons learned and generate concrete solutions that will enable to move towards sustainable development. The specific objectives of the forum were to:</p> <ul style="list-style-type: none"> <li>• Present the results, impact and lessons learned from post-Ebola recovery programs in the health, agriculture, democracy and governance sectors, and how they contributed to national development plans;</li> <li>• Generate actionable recommendations;</li> <li>• Ensure that commitments are taken into account in country-specific solutions for achieving sustainable development.</li> </ul> <p>PREDICT Guinea contributed to the Forum through an innovative exhibition to present the results of the filovirus surveillance activities in Guinea. Pr. Jonna Mazet (Principal Investigator of PREDICT at UC Davis), Prof. Alpha Oumar Camara, Dr. Jaber Belkhiria, Dr. Doukoro Kalivogui all participated and contributed to the work of in-depth, interactive and specific groups for the health sector in general and especially at GHSA</p> <p>3. April 16-17, 2018: PREDICT/Guinea participated in the national workshop on zoonotic disease surveillance using the "One-Health" approach and field epidemiology. The workshop was held at the Institute of Veterinary Medicine of Dalaba and brought together the faculty of the Institute, the PREDICT/Guinea project, the FAO, the CDC, the ministries of livestock, environment, and Health. Prof. Alpha Oumar Camara, Country Coordinator of the PREDICT/Guinea project had the privilege of presenting the PREDICT surveillance activities in Guinea. This presentation served as a framework for the workshop.</p> <p>4. May 16, 2018: PREDICT team members from HQ (Dr. Belkhiria) and Guinea (Dr. Kalivogui), joined the USAID / Guinea mission to visit the FAO's EPT-2 field activities in Kindia, a town located at 135 km from Conakry. This visit was an opportunity for PREDICT/Guinea to learn from other partners and to improve its strategies among the beneficiary communities of the project.</p> <p>9 5. August 8-12, 2019: PREDICT/Guinea sent two field agents to Liberia (Monrovia) to participate in training in the administration of the behavioral questionnaires. These agents are now</p>

	A
	Kenya
10	
	Republic of Congo (RoC)
11	
	Rwanda
12	

	B
10	<p>1. PREDICT/Kenya, jointly with OHW/OHCEA, FAO and USAID P&amp;R conducted a One Health training event at Mpala between February 1st - 4th, 2018. During the training, participants were taken through a pandemic simulation to learn how to approach an outbreak investigation using PREDICT biosecurity, biosafety protocols. A total of 37 participants attended, drawn from University of Nairobi and Moi University postgraduate students and their faculty mentors, veterinarians at both the national and county (Laikipia) level, Kenya Wildlife Services, Laikipia County health officers and members of the local community. The students observed first-hand a defined high-risk interface, learning about the different drivers and human behavioral risk factors that contribute to the emergence and/or spread of pathogens. In addition, the students learned how to apply the One Health concept to mitigate some of the problems the local community were experiencing (frequent diarrhea and flu-like symptoms).</p> <p>2. PREDICT/Kenya has ongoing participation in the development of a curriculum that teaches a One Health approach to camel medicine, welfare, and husbandry, as well as proposed courses in zoonotic disease. These courses will be offered at the University of Nairobi, School of Veterinary Medicine and will be offered as part of a One Health certificate to undergraduate and postgraduate students, and also as part of continuous professional development (CPD) to practicing veterinarians. PREDICT/Kenya also continues to train interns on biosurveillance strategies and PREDICT protocols. In year 4, PREDICT continued to work with two MSc and one PhD student, who were trained and immersed in field and laboratory methodologies.</p> <p>3. In the first quarter of Y4, PREDICT/Kenya continued to capacity build the national government laboratories by organizing a one-week advanced training in Molecular Laboratory Diagnosis to allow capability of detecting and identifying different viral families, including novel viruses, during routine surveillance and monitoring and in case of an outbreak. Participants were from two government national laboratories: the Central Veterinary Laboratory (CVL) and the Food and Mouth Disease (FMD) Laboratory. The two labs are referral labs and handle most of veterinary diagnostics within Kenya.</p> <p>3. The PREDICT/Kenya CC, Dr. Kamau, participated in a FAO-organized training workshop in Nakuru between January 16-20th focused on a HPAI simulation. Dr. Kamau presented on the link between the health of wildlife and the environment with that of humans, and the importance of a multidisciplinary/multisectoral One Health approach to the investigation of a disease outbreak.</p> <p>4. In January, the PREDICT/Kenya CC participated in a Kenya MERS-CoV Technical Working Group meeting (TWG), including an update on research and preliminary results release by FAO to partners. The meeting was held at the DVS boardroom and attended by DVS, USAID representatives, P&amp;R, ZDU, FAO and P2.</p> <p>5. In February, PREDICT/Kenya, jointly with OHW/OHCEA, FAO and USAID P&amp;R conducted a One Health training event at Mpala Research Centre in Laikipia, Kenya (site of PREDICT testing). During the training, participants were taken through a pandemic simulation to learn how to approach an outbreak investigation using PREDICT biosecurity, biosafety protocols. A total of 37 participants drawn from University of Nairobi and Moi University postgraduate students and their faculty mentors, veterinarians at both the national and county (Laikipia) level,</p>
11	<p>1. PREDICT/RoC successfully assisted in the implementation of a multi-sectoral One Health (EPT) consortium in 2017 involving: MoD, MoH, Ministry of Agriculture, Ministry of Forestry and Wildlife, Ministry of Environment, Ministry of Scientific Research, Ministry of Finance, Homeland Ministry, WHO, and FAO.</p> <p>2. PREDICT/RoC project has carried out a training session to contribute to the application of "One Health" in Republic of Congo. From September 17nd to 25th , 2018, twenty people from government laboratory, institutions and ministries (LNSP, the Army Medical Hospital, the Faculty of Sciences and Technology at National Marien Ngouabi University, the General Director of Livestock and representatives from the Ministry of Water and Forestry) attended a PREDICT surveillance training given by a PREDICT EcoHealth Alliance scientist. The objective of this training session was to allow people from different institutions involved in "One Health" activities and research to meet and brainstorm around outbreak response and sampling protocols while being trained on all major PREDICT SOPs.</p>
12	<p>1. PREDICT/Rwanda participated and contributed expertise in a One Health SMART workshop convened by the One Health Workforce team to prioritize zoonotic diseases and develop a strategy for joint surveillance.</p> <p>2. PREDICT/Rwanda participated in instruction of the University of Rwanda's Rift Valley Fever Outbreak Response training and workshop held in June 2018. PREDICT/Rwanda participated in the Government of Rwanda's One Health Steering Committee meetings, which served to gauge progress on achieving One Health goals for capacity strengthening. As well, PREDICT/Rwanda hosted veterinary student interns at Gorilla Doctors' headquarters in Musanze, Rwanda: students gained first-hand experience with zoonotic disease surveillance.</p>

	A
13	Senegal
14	Sierra Leone

	B
13	<p>1. In an effort to strengthen Senegal's laboratory networks and capacity for rapid detection of priority zoonotic diseases, a GHSA priority, PREDICT/Senegal held laboratory trainings on PREDICT protocols at UCAD and ISRA. This training was conducted by Dr. Alexandre Tremeau-Bravard from the University of California, Davis from 14-25 August, 2017. During this training period, PREDICT successfully provided an overview of general laboratory safety and sample handling including RNA extraction, cDNA synthesis, RNA quality check and consensus PCR for Filoviruses, Coronaviruses, Influenzas and Paramyxoviruses. UCAD and ISRA, critical nodes in Senegal's animal and human surveillance and laboratory networks, are now more skilled and working to advance Senegal's capabilities for detecting priority zoonotic diseases. As a result of the training the laboratories of UCAD and ISRA are now performing viral detection on animal and human samples collected by the PREDICT project.</p> <p>2. PREDICT/Senegal held a training from 5-7 June 2018, for EISMV Wildlife Masters Students. 11 students were trained in PREDICT One Health protocols which included biosafety, biosecurity, safe animal sampling, data entry, and sample transport.</p>
14	<p>1. PREDICT/SL attended and presented at the World One Health day celebration on Friday November 3rd, 2017, organized by the USAID Preparedness and Response (P&amp;R) project in coordination with the Ministry of Health and Sanitation (MOHS) and the Ministry of Agriculture, Forestry, and Food Security (MAFFS). The meeting was attended by government representatives and several key partners (PREDICT, CDC, USAID Mission, FAO, WHO, and Njala University) to raise awareness and provide updates for ongoing One Health projects in Sierra Leone. PREDICT was highlighted as an example of One Health in action.</p> <p>2. PREDICT/SL held multiple OH sensitization sessions focusing on the "Living Safely with Bats" book over a 3 month period (April - June 2018).  April 8th, 15th, 22nd, 29th  May 6th, 13th, 20th, 28th  June 3rd, 10th, 17th, 24th  Locations: Bombali, Kono, Pujehun, Koinadugu, Western Area Rural districts, and Kambia  PREDICT/SL engaged over 400 community stakeholders at district, chiefdom and community levels in our operational districts (Kambia, Bombali, Kono, Koinadugu, Western Area rural, and Pujehun). The community meetings focused mainly on zoonotic disease risk and messages on safe living with animals and healthy practices using the bat book.</p> <p>3. Engagement meetings -Bombali virus discovery with Government and OH stakeholders  Dates: June 1st, July 25th, August 2-3rd, 2018  Locations: Freetown, Makeni (for government, OH stakeholders), Robuya, Rosanda and Yeli Sanda communities  PREDICT/SL held engagement meetings with ~50 national government and one health stakeholders to communicate the Bombali virus discovery in Freetown and Bombali district. We also visited the 3 communities where the positives bats were caught, to discuss the findings and how to safely live with the animals to prevent zoonotic disease transmission.</p>

	A
15	Tanzania
16	Uganda
17	ASIA



	B
15	<p>1. PREDICT/Tanzania Country Coordinator coordinated a group of 70 UGs and organized a session discussing PREDICT's One Health approach to surveillance. Postgraduates at SUA, took part in a training with OHCEA and 4 sessions on PREDICT. At IHI, the Director of sciences gave a presentation on PREDICT focusing on One Health. These sessions serve to increase the understanding and importance of One Health in Tanzania's future workforce.</p> <p>2. The relationships PREDICT and GHSA are fostering between animal and human health sectors are helping build the foundation for a unified future workforce in Tanzania and are providing critical opportunities for institutionalization of emerging One Health networks. PREDICT/Tanzania is actively working together with government health professionals at the subnational level to train and strengthen the capacity of Tanzania's health professionals in areas at-risk for zoonotic disease emergence and spread. This period, PREDICT/Tanzania worked closely with a District Veterinary Officer, Zonal Veterinary Offices staff, and Livestock Field Officers, clinicians and nurses at sites in the Lake Zone where PREDICT/Tanzania is conducting zoonotic disease surveillance. Our aim is to build a One Health team at the district level where different departments and sectors learn and work together, share data and information, and actively participate in field-based surveillance activities to better conduct surveillance for zoonotic disease threats and prepare for potential outbreaks. In depth trainings this period involved a Livestock Field Officer from Ujiji municipal and covered biosafety and PPE use, safe animal capture and sampling, emergency preparedness, and safe sample storage and shipment. PREDICT/Tanzania also trained government health care staff in Ujiji Municipal and Kyerwa Districts at the Ujiji and Murongo Health Centres. These clinic-based trainings included the clinicians, lab technicians, and nurses and covered research ethics, biosafety and human syndromic surveillance, safe sample collection procedures, processing and storage. As a result, trained government and PREDICT/Tanzania staff are working together in the field and at both clinics where febrile patients enrolled, interviewed, and tested for zoonotic viral pathogens.</p> <p>3. In July 2018, PREDICT/Tanzania Project staff contributed as both instructors and participants in the Rx One Health Summer Institute which aims to provide a "prescription" for advanced students and early career professionals to prepare them for immediate engagement in global health careers that will demand effective problem-solving skills, cross-disciplinary engagements, and solid foundations in field and laboratory activities. We had a cohort of 21 students represent the fields of veterinary and human medicine, public health, social science and laboratory technology and hail from 5 different countries, including the United States, Nigeria, Tanzania, Denmark, and Vietnam. PREDICT staff had an opportunity to share knowledge and experiences gained through involvement in One health surveillance, training, lab testing, community engagement, biosafety and biosecurity.</p>
16	<p>1. PREDICT/Uganda trained four veterinary students attending Makerere University's College of Veterinary Medicine, Animal Resources and Biosecurity (COVAB) in the classroom on PREDICT modules and protocols for zoonotic disease, biosecurity, and animal handling and sampling. These students then obtained in situ experience with wildlife field surveillance activities, where they gained hands-on skills in safely and humanely capturing and sampling bats and rodents in and around people's farms and dwellings.</p> <p>2. This year PREDICT/Uganda received and is training two final-year veterinary student interns from Makerere University College of Veterinary Medicine. The training focuses on safe animal capture and sampling in addition to personal protection (PPE) and safe transportation of samples to the laboratory. As well, students gained first-hand experience with PREDICT field surveillance.</p>
17	

	A
	Bangladesh
18	

	B
18	<p>1. November 28 to December 4, 2017, the PREDICT/Bangladesh team was requested by the Government of Bangladesh to use a One Health approach to investigate a crow mortality event in Dhaka City.</p> <p>The crow mortality event was identified at a regular PREDICT wildlife surveillance site. The investigation was led by the Institute of Epidemiology, Disease Control and Research (IEDCR) in collaboration with PREDICT, the Bangladesh Livestock Research Institute (BLRI) and the Government of Bangladesh (GoB) Department of Livestock Services (DLS).</p> <p>Through the One Health Secretariat, PREDICT/Bangladesh collaborated with a team from the DLS during sample collection for this outbreak, as DLS has not participated in a crow outbreak previously, to increase the capacity of DLS to respond to crow mortality events. PREDICT/Bangladesh and DLS were both involved in GoB meetings to discuss the One Health outbreak response and regularly updated the One Health Secretariat. This is the first joint outbreak response for DLS and the PREDICT/Bangladesh team through the One Health Secretariat, which reflects the institutionalization of One Health and workforce capacity development among Government of Bangladesh partners.</p> <p>2. Investigating Bat Population Near Human Viral Incident February 7th-12th, 2018, the PREDICT/Bangladesh team was requested to participate in a One Health investigation of bats roosting near a suspected Nipah virus outbreak in people of Bagura, Bangladesh.</p> <p>3. January 29th – 31st, 2018, a PREDICT/Bangladesh team member participated in the Prince Mahidul Award Conference in Thailand. The participant presented a poster on PREDICT's One Health activities in Bangladesh.</p> <p>4. PREDICT/Bangladesh is continuing to build a network of One Health professionals through increased presence in the scientific community by participating and presenting research findings at numerous international conferences.</p> <ul style="list-style-type: none"> <li>- PREDICT/Bangladesh had two oral presentations accepted and one poster presentation at the 15th International Scientific Conference (ISCon XV) of Chittagong Veterinary and Animal Sciences University (CVASU) held during 12-13 May 2018;</li> <li>- At the 5th International One Health Congress in Canada 22 - 25 June 2018, and the PREDICT/Bangladesh team had four scientific posters presented and the coordinator was invited to speak in a plenary session. The PREDICT/Bangladesh coordinator was also invited to submit an article in the One Health Communicator on "Nipah in Bangladesh: when epidemics become endemic," which was featured in the One Health Platform magazine and given to every conference participant; PREDICT supported the director of IEDCR to present on behalf of the PREDICT Bangladesh team. The director presented the following: "One Health Secretariat: A Formalized coordinating Entity for Operationalizing One Health in Bangladesh" in the Science Policy Interface session.</li> <li>- PREDICT/Bangladesh presented on One Health Economics at a conference organized by the Bangladesh Society for Veterinary Education and Research, part of a symposium on the 'Economic Impact of Prioritized Zoonotic Diseases' and included representatives from the ministries of wildlife, livestock and disease control and FAO.</li> </ul>

	A
19	Cambodia
20	Indonesia

	B
19	<p>1. PREDICT/Cambodia conducted training to update team members on protocols for surveillance in bats and rodents, livestock and humans, laboratory safety and sample handling and storage. The team included local national PREDICT staff, staff from the National Animal Health and Production Institute (NAHPRI), the Forestry Administration (FA), the Cambodian CDC and veterinary and bioscience students from the Royal University for Agriculture, and the Royal University of Phnom Penh. Following the training this team participated in coordinated sampling efforts using a One Health approach at a rodent trade hub on the border with Vietnam and in a bat guano harvesting community in cooperation with district animal and human health officials. By extending training to include government and University individuals, PREDICT/Cambodia is contributing to increasing the understanding of One Health as well as the Cambodia work force.</p> <p>2. Building on training in previous years, additional local Cambodian staff from IPC (the National Influenza Reference Laboratory for Cambodia and an important training laboratory for national staff) and three veterinary students were trained in Year 4 of PREDICT 2 to use PREDICT protocols:</p> <p>Basic Laboratory Safety - 5  Biosafety and PPE - 4  Bat Sampling - 3  Rodent Sampling- 3  Emergency Preparedness - 2  Human Syndromic Surveillance - 2  Human Sampling - 1  Livestock Sampling - 12  Outbreak Response - 9  Policies and Plans - 3  Qualitative research - 1 staff from IPC  in Safe Animal Capture and Sampling - 5  Safe Sample Transport and Storage - 3  All trainings were conducted in November 2017, except for the Livestock Sampling trainings which were conducted in February 2018.</p>
20	<p>1. In-service One Health training during PREDICT/Indonesia field surveillance activities with local partners from universities, ministerial offices of animal and public health, hospitals and primary health care centers.</p> <p>2. In collaboration with the South East Asia One Health University Network (SEAOHUN), PREDICT/Indonesia hosted a fellow from the University of Malaya, Kuala Lumpur, an instance of cross-boundary workforce development efforts. 3. SEAOHUN awarded an internship to Ms. Tengku Idzan Nadzirah, who worked with PREDICT-Indonesia's two laboratory partners (PRC-IPB in Bogor and EIMB in Jakarta) for three months, an opportunity for both professional mentorship and skill development. Based on the success of this mentorship, SEAOHUN is planning to allocate two candidates for their fellowship program in 2018 to work with PREDICT-Indonesia's laboratory partners. 4. PREDICT/Indonesia conducted a half-day seminar on "Virus Surveillance in Wildlife for Preparedness of Potential Future Pandemic Diseases" in collaboration with Primate Research Center IPB, on 5 April 2018. Thirty-one (31) participants attended the seminar from various institutions, among others: USAID-Indonesia, Bogor Agriculture University, Center for Veterinary Research (BBLitvet), Veswick-Indonesia, Indonesian Institute of Sciences (LIPI), Center for Agricultural Quarantine, Animal Sanctuary Trust Indonesia (ASTI), Primate Research Center, as well as some from private companies.</p>

	A
	Lao PDR
21	

	B
21	<p>In October 2017, PREDICT/Lao PDR coordinated a meeting in Vientiane that brought together staff from the National Animal Health Laboratory (NAHL) and the National Center for Laboratory and Epidemiology (NCLE), providing a valuable opportunity for professionals from animal and human health sectors to develop working relationships, to discuss common goals in the context of PREDICT and to continue open lines of communication between national-level organizations. In the two weeks following this meeting, 2 NAHL staff (1 female) and 3 NCLE staff (1 female) took part in hands-on refresher sessions in PREDICT diagnostics and training in preparation of samples for viral sequencing, strengthening capacity in both animal and human health labs for zoonotic viral detection in Lao PDR. Shared protocols and collaboration of human and animal health laboratory professionals is integral to the PREDICT project in Lao PDR, and more importantly, aligns organizations for successful implementation of the One Health approach and allows Lao PDR to strengthen its capacity to detect and respond to zoonotic disease threats.</p> <p>During March 2018, six in-service professionals (1 doctor, 2 nurses [1 female], 1 lab technician, and 2 hospital administrative staff [1 female]) at Khong District Hospital in Champasack Province, Lao PDR, were trained in the following: PREDICT policies; protocols for biosafety and PPE; emergency preparedness; basic laboratory safety; provision of assistance during a disease outbreak or health event; human syndromic surveillance; and ethics for human subject research. This training strengthens the foundation of a One Health approach in this rural region by educating human health professionals on the risk of zoonotic disease and strengthening skillsets to enable involvement of these professionals in data collection to support development of interventions to mitigate the risk of spillover and spread of zoonotic viruses. This training marks the expansion of PREDICT's scope in Lao PDR, adding human biological sampling and increasing human behavioral surveillance in a geographic region where wildlife and livestock have been concurrently sampled by PREDICT and FAO since 2016. Improving this community's capacity for concurrent surveillance of zoonotic viruses in animals and humans with the aim to mitigate risks that originate at the interface between humans and animals lays important groundwork for growth of the One Health approach in Lao PDR.</p> <p>In November 2017, PREDICT conducted training for Khong District Hospital staff on ethical considerations for human research, how to perform ethnographic interviews and facilitate focus group discussions, sensitizing these health workers on risks associated with animal contact and zoonotic virus transmission. These training groups included 6 people (2 women) from the Khong District Hospital and the Champasack Provincial Health Office</p>

	A
	Malaysia
22	
	Mongolia
23	



	B
22	<p>1. 14 October 2017 – PREDICT/Malaysia Country Coordinator met with YB Datuk Seri Man Su Keong, Minister of Plantation Industries and commodities and YB Datuk Dr Kalayan Sundram, Director Malaysian Palm Oil Council. PREDICT/Malaysia Country Coordinator briefed them on PREDICT and IDEEAL work and the important role of Sabah Wildlife Department's Wildlife Rescue Unit (WRU) and Wildlife Health Unit (WHU) in this work and its One Health approach. The Country Coordinator highlighted the impact that this work is having both on wildlife and human health. Minister agreed that Ministry of Plantation Industries and commodities will continue to provide financial support to MPOC to fund WRU and WHU. The One Health aspect of the WRU and WHU work was one of the main reasons the Minister approved further funding as their work is not just benefiting conservation but public health as well.</p> <p>2. 6 – 8 December 2017 - PREDICT/Malaysia arranged through the US Embassy using DTRA funding for 2 vets from Sabah Wildlife Department / WRU to attend the 4th Joint International Tropical Medicine Meeting held in Bangkok. Each year, the Faculty of Tropical Medicine host this event, giving researchers, policy-makers, doctors, scientists, public-health professionals, and students the opportunity to meet and learn from one another, for the improved health of people living in, and traveling through, the Tropics. The theme this year was ""Tropical Medicine 4.0 Effective Collaboration for an Impact on Global Health."" The meeting program covered a large range of tropical diseases, especially those endemic to Asia, to include: malaria, dengue, helminthic infections, bacterial, viral, fungal and parasitic diseases, and the fields of disease epidemiology, drug development, education, and biology. Attending this conference helps the vets think about their role from a One Health perspective and how their activities directly impact on One Health agenda.</p> <p>3. 13 March: In preparation for PREDICT/Malaysia's next round of Orang Asli concurrent sampling one new staff member from the Gua Musang District Health team was trained in PREDICT protocols including presentations on One Health and zoonosis.</p> <p>4. 26 March: In preparation for next round of PREDICT/Malaysia Orang Asli concurrent sampling four new staff member from the Kuala Lipis District Health team were trained in PREDICT protocols including presentations on One Health and zoonosis. These trainings increase the capacity of Malaysia's workforce to implement One Health surveillance.</p> <p>5. 15-18 May 2018: PREDICT rodent and bat sampling SOP training for 1 UMS PhD student. Important to start next generation of One Health workforce thinking more about One Health, zoonosis and how to work safely.</p> <p>6. 18 May: Training on handling and storing Trizol for 2 EHA staff and 5 PERHILITAN staff. The more individuals involved with lab and field work who understand the risks of working with Trizol and have been trained to work with Trizol safely makes an accident less likely, and in the event of an accident more likely that it will be correctly dealt with.</p> <p>7. 30 May: Trained 5 DHO Kuala Kangsar and 1 DHO Kuala Lipis staff on Orang Asli study methods, biosafety &amp; PPE and lab safety. District Health Staff have few opportunities for this kind of training. This is a great opportunity to remind them of the risks involved in their day to day activities so they can work more safely but also to refresh them on skills they would need during an outbreak.</p> <p>8. 31 May – 8 June 2018: BioPlex capacity training conducted at NWFL (PERHILITAN) with students and staff from the Department of Wildlife and National Parks (DWNP), EcoHealth Alliance (EHA), National Public Health Lab (NPHL), Universiti of Malaysia (UM), Universiti Putra Malaysia (UPM) and Department of Veterinary Services (DVS). Seven individuals who received training in Year one participated in refresher training during this time. In total, Year Two training included staff from DVS/VRI (four), DWNP (four), EHA (six), UPM (two), UM (three), and NPHL (two). This training increased the number of staff from DVS, MoH and DWNP who have been trained to use BioPlex which will be useful for research, disease</p>
23	<p>PREDICT/Mongolia contributed to the one-Health approach in Mongolia through workforce strengthening on activities:</p> <p>1. Continue training health (veterinary, zoonotic disease and protected area) specialists through Avian Influenza surveillance in wild birds at key targeted areas of Mongolia in 13 provinces including 6 province veterinary laboratory professionals, 3 protected area rangers and 3 province zoonotic disease center professionals on working as a team for surveillance, reporting outbreaks and responding, sending samples to the State Diagnostic Veterinary Laboratory</p> <p>2. Continue to support State Central Veterinary Laboratory staff on workforce training though better disease detection, outbreak response and communication with environmental and health Ministries and officers for urgent communication and information sharing.</p> <p>3. PREDICT/Mongolia supported establishment of Saiga PPR working Group to address wildlife disease outbreak issues among livestock health, environmental agency and national emergency management agencies and continue to educate professionals on One-health approach and need during various disease outbreaks among livestock wildlife and human health sectors.</p> <p>4. One Health professionals have been trained in field surveillance and monitoring. In 2018 the PREDICT avian influenza field surveillance team, consisting of 4 veterinarians from 4 provincial veterinary laboratories, 5 protected area rangers, and 1 provincial zoonotic disease center professional, worked together as one team while collecting guano samples and investigating mortality among wild migratory birds. This surveillance team collected samples, but the activity also helped create professional partnerships and connections among the different organizations that act as hubs for One Health. These PREDICT-trained and immersed professionals are then able to provide sensitization of the work force by applying their training and furthering the communication network within their respective institutions.</p>

	A
	Myanmar
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	Nepal
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	Thailand
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	B
24	<p>1. PREDICT/Myanmar team joined the consultation meeting of SEAOHUN which aimed to review and incorporate One Health related curricula and projects in the invited universities of Myanmar. University of Medicine 1, Yangon volunteered to initiate One Health related intervention for its undergraduate and postgraduate programs. PREDICT/Myanmar was able to provide expertise and guidance on One Health surveillance, biosafety and biosecurity and other topics.</p> <p>2. PREDICT/Myanmar team continued its capacity building in operationalization of laboratory analysis in laboratories in Department of Medical Research and Livestock Breeding and Veterinary Department. To operationalize the lab analysis, further capacity needs, technical consultations with UC Davis and procurement of reagents were supported to partners laboratories through Year 4. PREDICT/Myanmar team conducted two orientation sessions on MSDS by using product safety data sheets from Fisher Sciences (Delta Science company) for each products and reagents which are using for lab analysis in two laboratories.</p> <p>3. The PREDICT/Myanmar team continued providing capacity building surveillance training to Township LBVD officials, animal handlers from Hlawga Nation Park, basic health staff and community health workers in Hpa-an, Hmawbi and Oakkan, Taikkyi, Yangon both in dry and wet season samplings of Year 4. A remarkable impact of the capacity building was seen with the community health workers in that they could apply the knowledge they received from the P2 surveillance training into identifying new potential sites of human wildlife interface. With their observation and risk identification, the P2 team could expand 3 new villages with potential high risk of disease interface in Yangon and Hpa-an, expecting to receive more efficient data and information.</p> <p>4. PREDICT/Myanmar team organized two feedback meetings with DMR, Yangon and with LBVD in Naypyitaw in May 2018 and presented the progress and findings of P2 implementation in Myanmar to officials from Central Epidemiology Unit, Forestry Department, Myanmar Medical Association, Yangon City Cancer Project, University of Medicine 1, Yangon and P2 partners. In these meetings, Asst Director, CEU and LBVD sought some technical clarifications on research methodology related to site selection, operational definition of risk population and study period. Director from MONREC requested to include capacity building for MONREC staff especially staff from the zoo, sanctuaries and natural areas for safe animal handling, awareness raising and personal protection. The trainings for MONREC staff are planning to conduct in Year 5.</p>
25	<p>1. PREDICT/Nepal conducted trainings for the local workforce on utilizing a One Health approach with community engagement (June 2018)</p> <p>2. PREDICT/Nepal trained the global workforce on a One Health approach for disease surveillance and research through presentations on One Health, visits in community and hospital surveillance sites and engagement in PREDICT related activities in Nepal. Students from Touro University, California, Michigan state university, Michigan in USA and McMaster University in Canada visited PREDICT sites to observe one health research implementation on site.</p>
26	<p>1. PREDICT/Thailand hosted training for one Malaysian scientist from the 2017 SEAOHUN Fellowship Program on October 9-15, 2017. The scientist received training in biosafety and field bat sampling.</p> <p>2. PREDICT/Thailand organized the "Global One Health Day 2017: One Health Challenges in Thailand 4.0 Era Conference" in collaboration with the Department of Disease Control on November 27, 2017. Thailand's Country Coordinator presented PREDICT/Thailand's progress as part of the One Health mission in Thailand.</p> <p>3. Hosted training for two Chinese scientists from the Wuhan Institute of Virology on May 17-20, 2018. The trainees received training in field bat sampling.</p> <p>4. PREDICT Thailand and global team conducted the training workshop on "PREDICT Behavioral Risk Surveillance and Intervention Development-Quantitative and Qualitative Methods" for staff from Loei hospital on May 2, 2018 and for staff from the Ratchaburi Office of Disease Prevention and Control on May 4, 2018.</p>

	A
	Vietnam
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29	MIDDLE EAST (Regional)
	Jordan
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32	*for the period 10/1/17-9/3
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27	<p>1. Through partnership with PREDICT/Viet Nam, the Hanoi School of Public Health (a Viet Nam One Health University Network - VOHUN member) has increased capacity in conducting qualitative research as part of a One Health approach to addressing behavioral risk associated with zoonotic disease. PREDICT/Viet Nam provided training in One Health approaches to qualitative research to 11 female and 5 male members of the junior faculty or recent graduates of the HSPH. The teams in turn have been involved in conducting ethnographic interviews and facilitating focus group discussions on behavioral risks associated with animal/wildlife handling and contact.</p> <p>2. PREDICT/Vietnam participated in the Annual One Health Forum organized on May 30, 2018, in Hanoi. The meeting was attended by a total of 84 representatives from various agencies and international organizations, including the Ministry of Agriculture and Rural Development (MARD), the Ministry of Health (MoH), the French Organization for Agriculture Research and Development (CIRAD), the Oxford University Clinical Research Unit (OUCRU), FAO, WHO, US CDC, USAID and WCS/PREDICT. The aim of this forum is to review the implementation progress of the National One Health Strategic Plan (OHSP, 2016-2020) as well as enhance policy development for focus sectoral issues and strengthen international cooperation in One Health activities. During the event, PREDICT contributed comments and ideas and shared relevant experience and lessons learned in support of One Health collaborative partnerships.</p> <p>3. PREDICT/Vietnam participated in The One Health Assessment for Planning and Performance (OH-APP), chaired by the Deputy Director of the General Department of Preventive Medicine in Ninh Binh Province, on August 14 – 15, 2018. A total of 30 participants from the MoH, the Department of Animal Health (DAH), USAID, the National Institute of Hygiene and Epidemiology (NIHE), Vietnam National University of Agriculture (VNUA), CIRAD, the National Institute of Veterinary Research (NIVR), P&amp;R, and PREDICT attended this meeting. The purposes of the OH-APP are to assess the maturity of Vietnam's One Health coordinating mechanisms, and to provide data for decision-making that would enhance organizational capacity and One Health performance for the country. PREDICT and its study results were introduced and contributed during the meeting.</p> <p>4. WCS attended and introduced PREDICT to the Training Program on Adjudication of Cases Relating to Crimes Against Protected Wildlife Under the 2015 Penal Code, organized on August 23-24, 2018. Forty-seven participants, working in the Supreme People's Court and People's Court of 18 Provinces of Southern Viet Nam attended the training. PREDICT provided a lecture during the training focused on the potential risk of disease transmission along the illegal wildlife trade network to increase awareness of the different government agencies responsible for wildlife trade law enforcement.</p>
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30	PREDICT/Jordan, in collaboration with USAID/Jordan, is actively engaging veterinarians and laboratorians in southern Jordan in One Health capacity-building activities, including improving diagnostic capabilities for zoonotic pathogens. Trainings in diagnostic laboratory techniques and implementing a One Health approach for government officials and veterinarians/laboratorians from Southern Jordan are currently in preparation to be held later this year. Southern Jordan does not have the same One Health capabilities as Middle and Northern Jordan, which is why these trainings will help bridge the gap.
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32	<b>30/18 ONLY</b>
33	<b>23 countries</b>

	A	B	C	D	E	F	G
	<b>Indicators 2.1a</b>	<b>Total # of faculty members that received OH training or professional development</b>			<b>Animal Health Field</b>	<b>Human Health Field</b>	
1			<b>Females</b>	<b>Males</b>			<b>Other</b>
2	<b>AFRICA (Regional)</b>						
3	Cameroon	22	6	16			22
4	Cote d'Ivoire	11	5	6			11
5	DRC	13	3	10		4	9
6	Ethiopia	5	1	4			5
7	Ghana	3		3			3
8	Guinea			0			0
9	Kenya	10	3	7	7		3
10	Liberia	20	7	13			20
11	RoC	4	1	3			4
12	Rwanda			0			0
13	Senegal	4		4			4
14	Sierra Leone	19	6	13			19
15	Tanzania	43	29	14			43
16	Uganda			0			0
17	<b>ASIA (Regional)</b>			0			0
18	Bangladesh	17	8	9			17
19	Cambodia	12	5	7			12
20	China	12	4	8			12
21	India	11	3	8			11
22	Indonesia	26	14	12	7		19
23	Lao PDR	3	2	1			3
24	Malaysia	18	9	9	4		14
25	Mongolia	3	1	2			3
26	Myanmar	10	4	6	4		6
27	Nepal	12	5	7			12
28	Thailand	18	12	6			18
29	Vietnam	15	12	3	9		6
30	<b>MIDDLE EAST (Regional)</b>			0			0
31	Egypt			0			0
32	Jordan	12	3	9			12
33	<b>GLOBAL</b>	26	22	4			26
34		<b>349.00</b>	<b>165.00</b>	<b>184.00</b>	<b>31</b>	<b>4</b>	<b>314</b>
35	<b>TOTAL</b>						
36							
37	<b>*for the period 1/1/17-9/3/18 ONLY</b>						

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1	<i>Faculty are defined as those within a University/academic research institute that report as not being a student; participant can report multiple fields of health area</i>
2	<b>*for the period 1/1/17-3/31/18 ONLY</b>
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	A	B	C	D	E	F	G
1	<b>INDICATOR TITLE CHANGE: List of publicly available educational, training, and/or implementation resources developed and shared</b>						
2	<b>Indicators 2.1b</b>	<b>Total # of educational materials developed</b>	<b>OH Modules</b>	<b>Case Studies</b>	<b>Training Manuals</b>	<b>Textbooks</b>	<b>Other (including PPT's)</b>
3	<b>AFRICA (Regional)</b>						
4	Cameroon	1					1
5	Cote d'Ivoire	1					1
6	DRC	1					1
7	Ethiopia	0					
8	Ghana	1					1
9	Guinea	2					2
10	Kenya	0					
11	Liberia	0					
12	RoC	1					1
13	Rwanda	1					1
14	Senegal	1					1
15	Sierra Leone	1					1
16	Tanzania	2					2
17	Uganda	0					
18	<b>ASIA (Regional)</b>						
19	Bangladesh	1					1
20	Cambodia	1					1
21	China	0					
22	India	0					
23	Indonesia	1					1
24	Lao PDR	1					1
25	Malaysia	2					2
26	Mongolia	0					

2.1b (MATERIALS)



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1	
2	<i>Educational Materials refer to instructional course or training modules/materials (including course packets, instructor guidelines, quizzes, standard operating protocols), stand-alone textbooks or case studies, FETPV materials</i>
3	<b>*for the period 10/1/17-9/30/18 ONLY</b>
4	<i>Living Safely with Bats</i>
5	<i>Living Safely with Bats</i>
6	<i>Living Safely with Bats</i>
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8	<i>Living Safely with Bats</i>
9	PREDICT Guinea made flyers for public information, communication and Education; <i>Living Safely with Bats</i>
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12	<i>Living Safely with Bats</i>
13	PREDICT participated in Gorilla Doctors' production of tourist outreach materials (video and signage) now permanently on display at Volcanoes National Park headquarters and at all gorilla tourist embarkation points, including a ranger posts, which educate tourists as to the risk of disease transmission among gorillas and people, and reminds tourists about tourism rules which help limit the risk of disease transmission. This effort was US Embassy RWANDA-funded, but benefitted from the input and credibility of our PREDICT Rwanda team.
14	<i>Living Safely with Bats</i>
15	<i>Living Safely with Bats</i>
16	PREDICT posters and outreach materials developed for the launch of the Tanzania National One Health Platform in February 2018. <i>Living Safely with Bats</i>
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19	<i>Living Safely with Bats</i>
20	<i>Living Safely with Bats</i>
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23	<i>Living Safely with Bats</i>
24	<i>Living Safely with Bats</i>
25	5 December 2017 - A documentary titled "The Amazon of the East – Balancing the scales" focusing on the Deep Forest Project in Kinabatangan aired on the Animal Planet Chanel (South East Asia). <i>Living Safely with Bats</i>
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	A	B	C	D	E	F	G
27	Myanmar	0					
28	Nepal	1					1
29	Thailand	1					1
30	Vietnam	1					1
31	<b>MIDDLE EAST (Regional)</b>						
32	Egypt	0					
33	Jordan	0					
34	<b>GLOBAL</b>	3			3		
35	<b>Total</b>	<b>24.00</b>	<b>-</b>	<b>-</b>	<b>3</b>		<b>21</b>
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38	<b>*for the period 10/1/17-3/31/18 ONLY</b>						

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28	<i>Living Safely with Bats</i>
29	<i>Living Safely with Bats</i>
30	<i>Living Safely with Bats</i>
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34	Revision of global training materials for animal samling
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	A	B	C	D	E	F	G	H
1	<b>NEW INDICATOR</b>							
2			<b>SEX</b>			<b>AFFILIATION</b>		
3	<b>Indicators 2.2a</b>	<b>Total # of future professionals trained</b>	<b>Male</b>	<b>Female</b>	<b>Undeclared</b>	<b>Animal Health Field</b>	<b>Human Health Field</b>	<b>Other</b>
4	<b>AFRICA (Regional)</b>							
5	Cameroon	18	7	11				18
6	Cote d'Ivoire (EHA)							
7	Côte d'Ivoire (IP)							
8	Côte d'Ivoire (IP/EHA)	6			6			6
9	DRC							
10	Ethiopia	2	2					2
11	Ghana	4			4			4
12	Guinea	1	1					1
13	Kenya	5	1	4		1		4
14	Liberia							
15	RoC	5	2	3				5
16	Rwanda							
17	Senegal	1	1					1
18	Sierra Leone							
19	Tanzania	10		1	9	0	1	9
20	Uganda	4			4	1		3
21	<b>ASIA (Regional)</b>							
22	Bangladesh	1	1					1
23	Cambodia	3	1	2				3
24	China	2	2					2
25	India	1	1					1
26	Indonesia	1		1				
27	Lao PDR							
28	Malaysia	21	12	9		4		17
29	Mongolia							
30	Myanmar	1			1			1
31	Nepal	1		1		1		
32	Thailand	2	1		1			2
33	Vietnam	3	1	2		1		2
34	<b>MIDDLE EAST (Regional)</b>							
35	Egypt	9	4	5				9
36	Jordan							
37	<b>GLOBAL</b>	3	1	2				3
38	<b>TOTALS</b>	<b>104</b>	<b>38</b>	<b>41</b>	<b>25</b>	<b>8</b>	<b>1</b>	<b>94</b>
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41	<b>*for the period 1/1/17-3/31/18 ONLY</b>							
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	I	J	K
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3	<i>Future professionals = Individuals enrolled in certificate/degree programs at member universities, regardless of whether were once in the workforce or not. This classification is based on self-identification by the participant on OHW training rosters. For P2, students are self-identified during training sessions.</i>		
4	<b>*for the period 1/1/17-3/31/18 ONLY</b>		
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38	This indicator captures individuals who classify themselves as students.		
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	A	B	C	D	E	F	G	H
1	<b>NEW INDICATOR</b>							
2			<b>SEX</b>			<b>AFFILIATION</b>		
3	<b>Indicators 2.2b</b>	<b>Total # of OH fellows placed</b>	<b>Male</b>	<b>Female</b>	<b>Undeclared</b>	<b>Animal Health Field</b>	<b>Human Health Field</b>	<b>Other</b>
4	<b>AFRICA (Regional)</b>							
5	Cameroon							
6	Cote d'Ivoire (EHA)							
7	Côte d'Ivoire (IP)							
8	Côte d'Ivoire (IP/EHA)							
9	DRC							
10	Ethiopia	2	2				1	1
11	Ghana							
12	Guinea	4				1	1	2
13	Kenya	2	2			1	1	
14	Liberia							
15	RoC							
16	Rwanda							
17	Senegal							
18	Sierra Leone							
19	Tanzania	1		1				
20	Uganda							
21	<b>ASIA (Regional)</b>							
22	Bangladesh	1		1		1		
23	Cambodia							
24	China							
25	India							
26	Indonesia	2	2		2		1	1
27	Lao PDR							
28	Malaysia							
29	Mongolia							
30	Myanmar							
31	Nepal	1		1				
32	Thailand	1	1			1		
33	Vietnam	3	1	2		2	1	
34	<b>MIDDLE EAST (Regional)</b>							
35	Egypt							
36	Jordan							
37	<b>GLOBAL</b>	1		1		1		
38	<b>TOTAL</b>	<b>18</b>	<b>8</b>	<b>6</b>	<b>2</b>	<b>7</b>	<b>5</b>	<b>4</b>
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41	<b>*for the period 10/1/17-3/31/18 ONLY</b>							
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	I	J	K
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3	Fellowship includes temporary placement in an approved One Health organization/activity; Fellows include students and early-career professionals		Note to M&E team: Fellows includes students from EIDITH for each country <b>and/or</b> includes country-reported fellows from Word questionnaire. Group trainings were not included due to fellowship being defined as a <b>placement</b> .
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38	*Students are captured in Indicator 2.2a		
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1	Indicator 2.2c		By Sex			Affiliation			
2		Total # of current professionals trained	Male	Female	Undeclared	Government	Academia/Research	Other	Student
3	AFRICA								
4	Cameroon	27	18	9				27	11
5	Cote d'Ivoire	28	21	7		18	10		2
6	DRC	17	15	2				17	
7	Ethiopia	9	7	2		5		4	
8	Ghana	10	8	2		5	3	2	
9	Guinea	38	32	6					1
10	Kenya	3	3				3		3
11	Liberia	23	17	6				22	
12	RoC	8	7	1		6		2	
13	Rwanda	6	6					6	
14	Senegal	13	9	4			10	3	
15	Sierra Leone	19	14	5			3	16	
16	Tanzania	29	14	15		9	16	4	2
17	Uganda	3	2	1				3	
18	ASIA								
19	Bangladesh	21	14	7		1	5	15	1
20	Cambodia	11	6	5			5	6	1
21	China	14	10	4			11	3	2
22	India	4	3	1			2	2	
23	Indonesia	21	10	11			16	5	
24	Lao PDR	20	11	9		8		12	
25	Malaysia	75	43	32		57	1	17	15
26	Mongolia	4	3	1		1		3	
27	Myanmar	5	4	1				5	
28	Nepal	28	19	9			1	27	
29	Thailand	44	30	14		24	16	4	
30	Vietnam	6	5	1				6	4
31	MIDDLE EAST								
32	Egypt	13	8	5		13			
33	Jordan	12	9	3			6	6	
34	Global Team	57	17	40				57	1
35									
36	TOTAL	568	365	203		147	108	274	
37	*for the period 10/1/17-9/30/18 ONLY								
38									
39									



	J	K	L	M	N	O	P	Q	R	S	T	U
1												
2		Current professional: all project staff (including faculty, lab and veterinarians, and administrative/support staff who work on the P2 project).		Note to M&E team: Current professionals for this year includes trainees marked as active in EIDITH. Does not include trainees whom are grandfathered in... (i.e Jonna Mazet , Woutrina Smith, Matt Lebreton, Peter Daszak, etc.). Active status captures current professionals whom may have not needed to take a refresher quiz during Y4								
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4	33											
5	14											
6	14											
7	7											
8	6											
9												
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2	<b>Indicator 3B (Outcome Level)</b>	<b>QUALITATIVE INDICATOR: List/Description of global, regional or country (lab, surveillance, workforce, OH, AMR) strategies under implementation *include title of strategy, brief description of focus/topic of strategy, if the strategy was endorsed and by whom</b>
3	<b>Indicate Country, Region or Global</b>	
4	Bangladesh	<p>PREDICT/Bangladesh attended the following meetings and contributed One Health expertise:  October 27th, 2017: The PREDICT team participated in a One Health economic meeting at the World Bank office in Dhaka, organized by the World Bank Bangladesh office. The following partners were included: One Health Bangladesh, IEDCR, DLS, and P&amp;R.  On the 4th of December 2017, PREDICT participated in a meeting held by the National Technical Committee on Avian Influenza, organized by DLS.  On the 19th of December 2017, the team participated in a workshop on the Transmission of Avian influenza from wild to domestic birds, which was organized by the IUCN.</p> <p>PREDICT actively supports the Government of Bangladesh's One Health Secretariat and has contributed and advised to further development of the national One Health platform, particularly regulations discussions and plans for the creation of policy related to data dissemination and sharing, as well as national viral priority setting, emerging threats and addressed critical issues towards increased One Health capacity.</p>
5	Cambodia	PREDICT/Cambodia attends and provides expertise for the Cambodian government's Zoonotic Technical Working Group
6	Cameroon	<p>PREDICT/Cameroon participated in multi-sectoral meetings to develop strategic surveillance plans for priority zoonoses (rabies, anthrax, and avian influenza), and to evaluate the epidemiological surveillance networks for animal diseases in Cameroon (RESCAM) using the FAO Surveillance Evaluation Tool (SET). This evaluation used a One Health approach to identify gaps and weaknesses in the animal disease surveillance system in Cameroon.</p> <p>To address current JEE and RESCAM (animal disease surveillance network) assessments and workforce insufficiencies, the future One Health workforce also depends on the development of strategic education programs to ensure ongoing and improved capacity for wildlife disease surveillance. PREDICT/Cameroon is participating in curriculum development for a Master of Science degree in Wildlife Health, with intake planned to begin in 2019 at the University of Buea, located in the Southwest Region of Cameroon.</p>

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2	<i>Includes evidence of Improved coordination of the national focal points with sub-national and community levels; multi-ministry or multi-sectoral teams on the ground (for example, in outbreak investigations).</i>
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7	Cote d'Ivoire	<p>National Sanitary Security Plan in CIV. Providing expertise in One Health surveillance, viral detection, and multi-sectoral information sharing at workshops. Upon invitation from the Coordinating Unit, PREDICT/CIV contributed to the One Health approach to surveillance for priority zoonosis and emerging threats by supporting working groups in preparation for the workshops. The PREDICT/CIV team reviewed the pathogen classification system and evaluated the prioritization of microorganisms during a workshop at IPCI on December 17, 2017.</p> <p>Developing an integrated surveillance system for zoonosis. On December 2, 2017, PREDICT/CIV was invited to take part in a workshop on monitoring systems of animal biodiversity and integrated surveillance of zoonosis, organized by the FETP-Frontline. The workshop was aimed at developing an integrated surveillance system for zoonosis within the framework of a One Health approach, following the recommendations of the Joint External Evaluation and the prioritization of zoonotic diseases to be monitored in Côte d'Ivoire (anthrax, salmonellosis, rabies, highly pathogenic avian influenza, bovine / human tuberculosis, hemorrhagic fever, brucellosis, echinococcosis, cysticercosis, and Rift Valley fever).</p> <p>PREDICT CIV participated in 3 workshops to draft (12-14th June 2018, Abidjan), pre-validate (9-11th July 2018, Grand-Bassam) and validate (25-26th September 2018, Azalai Hotel Abidjan) the "One Health Strategic Plan for Côte d'Ivoire". The "One Health" National Strategic Plan, which is a fundamental policy document, will articulate the vision, organization, measures, accountability mechanisms and monitoring and evaluation as part of the implementation of the "One Health" approach in Côte d'Ivoire. This document has been validated by the Technical Secretariat of the Global Health Security Agenda (ST-GHSA) members and the "One Health" stakeholders in Côte d'Ivoire. The final document will be transmitted to the Ivorian government for information. The signature of the decree establishing the "One Health" platform is still awaited.</p>
8	DRC	<p>PREDICT/DRC participates in strategic planning and execution at the provincial level through a collaborative effort with the Provincial Division of Health in the Epidemio-Surveillance program. PREDICT/DRC participates in bi-weekly meetings where current disease situations are discussed among attending physicians, veterinarians, and public health personnel. Since the 2018 EBOLA outbreak was declared, PREDICT has been participating on the crisis coordination committee, contributing in particular to epidemio-surveillance information sharing and planning, and on laboratory-based surveillance.</p>
9	Ethiopia	<p>In December 2017, the PREDICT/Ethiopia Country Coordinator attended the "Ethiopia National One Health Strategic Plan Validation, Organizational Structure Development and MoU Review Workshop," organized by USAID Preparedness and Response. The purpose of the workshop was to review and validate the draft National One Health Strategic Plan, agree on the Organizational Structure of the National One Health Platform and review and agree on the inter-sectoral collaboration, Memorandum of Understanding. In January 2018, PREDICT/Ethiopia participated in OH Steering Committee Meetings where the National One Health Strategic Plan (2018-2022) for Ethiopia was endorsed.</p> <p>Also in December 2017, the PREDICT/Ethiopia Country Coordinator attended a workshop organized by FAO ECTAD and the National One Health Steering Committee (NOHSC). The aim of the workshop was to initiate the establishment of a multi-stakeholder and inter-sectoral National One Health Communication Network (OHCN), in Ethiopia in collaboration with the Government Communication Affairs Office. The attendants of the workshop were the Government Communication Affairs Minister, Livestock and Fishery State Minister, Ethiopian Wildlife Conservation Authority General Director and FAO Representative to Ethiopia as well as delegates from Government Ministry offices, NGOs, academic and research institutions, professional associations, donors, development partners, organizations, and the media.</p> <p>PREDICT/Ethiopia contributed in the revision of Public Health Emergency Management (PHEM) guidelines of Ethiopia.</p>

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10	Ghana	<p>PREDICT/Ghana played a leadership role in the national GHSA One Health Zoonotic Disease Prioritization workshop in March 2018. The workshop identified 31 zoonotic diseases in Ghana. Participants identified a list of six priority zoonotic diseases, including anthrax, rabies, zoonotic tuberculosis, zoonotic avian influenza, hemorrhagic fevers, and trypanosomiasis.</p> <p>Dr. Richard Suu-Ire, the wildlife veterinarian at the Wildlife Division of the Ministry of Land and Natural Resources and the lead coordinator for wildlife disease surveillance for PREDICT in Ghana was invited to deliver a presentation entitled “Environmental Dimensions of Health Security –Strategies and Partnerships from Ghana” at the International Stakeholder Consultation on National Health Security and Pandemic Influenza Preparedness Planning in Ghana in December 2017. The objectives of the stakeholder consultation were to strengthen collaboration and coordination regarding the implementation of the national and global action plans of influenza pandemic preparedness and response with multi-sectoral stakeholders, including FAO and OIE; finalize the strategies and priorities with partners for influenza pandemic preparedness and response; share the status of country influenza pandemic preparedness, identify gaps and challenges and prioritize actions at national, regional and global level; align efforts among key stakeholders to address prioritized gaps and implement the WHO pandemic preparedness plan, within the framework of national action plan for health security. Through his presentation, Dr. Suu-Ire stressed the importance of the involvement of wildlife/environmental sector in the action plans for influenza preparedness as capacity in that sector is needed to address HPAI threats.</p> <p>PREDICT/Ghana is also a key partner in Ghana's One Health strategy for canine rabies control that is being championed by Rabies in West Africa (RIWA), whose lead person is PREDICT'S Wildlife Coordinator, Dr. Richard Suu-Ire. Dr. Suu-Ire and the Country Coordinator, Dr. Bel-Nono conducted community outreach and education on rabies control during community canine vaccination programs in September and October 2018.</p> <p>PREDICT/Ghana is strongly involved in the Ghana One Health Platform, which is coordinating and advocating for a national policy for One Health in Ghana. So far, the PREDICT Country Coordinator in collaboration with the EPT national coordinator at FAO, have briefed the Chief Directors of the Ministries of the Environment, Food and Agriculture, and Water and Sanitation on One Health and discussed One Health approaches in Ghana. Upcoming visits to the Ministry of Health and the planning unit of Government are planned in 2019.</p>
11	Guinea	PREDICT/Guinea played an active role in the development of the Guinean One Health Platform's Strategic Plan. They continue to provide consultation to the One Health platform on using a One Health approach to disease control, specifically influencing the Guinean national zoonotic disease surveillance network.
12	Kenya	PREDICT/Kenya Country Coordinator participated and offered technical expertise in the Community Leaders' Consultative Meeting on Climate Change and its Effect on Social-Ecological Systems within Different Land Use Systems in Laikipia County, Kenya.
13	Lao PDR	PREDICT/Lao PDR worked closely with Lao PDR Government's Department of Communicable Diseases Control and Department of Livestock and Fisheries, USAID, US CDC, DTRA, WHO, and FAO during 30 July – 03 August 2018 in Savannakhet province, to provide technical support for a cross-border table-top exercise on novel influenza viruses. This joint exercise aimed to strengthen multi-sectoral cross-border preparedness and response mechanisms for novel avian influenza viruses between Lao PDR, Cambodia, and Thailand, to improve communication and information sharing, and to identify priority actions and opportunities for effective coordinated responses.

	A	B
14	Liberia	<p>The PREDICT/Liberia team has been involved in several national level discussions including: The drafting and finalization of the National One Health Platform governance manual, the National Action Planning for Health Security, and development of a national surveillance plan for monkey pox. The National One Health Platform has been established with several line ministries consisting of the steering committee with the Vice-President as chair. In addition, PREDICT/Liberia has recently been involved with developing a national NGO One Health forum that will align NGOs with government One Health activities and fit within the existing structure of the National One Health Platform.</p> <p>PREDICT/Liberia has been involved in several high level meetings related to development and implementation of the One Health Platform and associated technical working groups, in the development of a national strategy for rabies control and for Lassa fever surveillance. PREDICT/Liberia has also begun piloting the World Bank's One Health Assessment tool in Liberia. This work is ongoing. PREDICT's presence at the weekly National Epidemic Preparedness, Response and Control meetings has led to better coordination and information sharing across the health sectors. Capacity building within Liberia's laboratory network is being coordinated by PREDICT along with FAO, MoA and NPHIL.</p>
15	Malaysia	The PREDICT/Malaysia Laboratory Manager attended the International workshop on molecular diagnosis for Elephant endotheliotropic herpesviruses (EEHV) infection at Faculty of Veterinary Medicine, Kasetsart University, Thailand with Wildlife Rescue Unit veterinarian Laura Benedict as part of the effort to help Sabah Wildlife Department to establish EEHV surveillance for Sabah.
16	Mongolia	PREDICT/Mongolia and FAO/OIE are supporting the National strategy on PPR Eradication, pushing for wildlife friendly FMD control strategies. The PREDICT team in Mongolia has contributed to the National Peste des Petits Ruminants (PPR) Eradication Strategy which will be endorsed by the FAO/OIE and the Mongolian Government by the end of 2018. The work in Mongolia around PPR focused on addressing the disease at the livestock and wildlife interface using a One Health approach.
17	Myanmar	In May 2018, the PREDICT/Myanmar team participated in the "Partner meeting of P2" which was organized by USAID RDMA and Burma mission in Yangon, and presented "the current status of P2 implementation in Myanmar". FAO and WHO team shared the progress and experiences of P2 project at this meeting to all partners. PREDICT actively contributes technical expertise to Myanmar government through in-person consultations and meetings and team continues to supporting capacity enhancements for the animal and human health sectors.
18	Nepal	<p>PREDICT/Nepal provided expertise to assist in building the One Health Network for South Asia at "The second One Health International Conference 2017" in Thailand. As a result, Nepal is a member of the One Health Network for South Asia and will be contributing to building strong collaboration in the region for One Health activities.</p> <p>PREDICT participated in the "Regional workshop on surveillance and cross-border collaboration on transboundary animal disease and zoonoses in South Asia", organized by the Food and Agriculture Organization in Bangkok, Thailand. This regional conference and workshop focused on establishing a network of various stakeholders to use One Health as a platform to tackle zoonotic diseases within country and between countries of South Asia. PREDICT/Nepal has been leading various aspects of zoonotic disease research and prevention through a One Health approach.</p>
19	Republic of Congo (RoC)	The RoC IHR committee is chaired by the Director General of Epidemiology and Disease Control and Response (DGELM). Within this framework, PREDICT RoC supported the last Monkeypox epidemic in the North zone in 2017. PREDICT/RoC contributed to the validation of the committee and its importance towards supporting One Health outbreak response activities.
20	Rwanda	PREDICT/Rwanda plays an important role in implementation of the Government of Rwanda's national One Health Strategy, as an active member of Rwanda's One Health Steering Committee, which identifies surveillance for wildlife zoonotic pathogens as a priority for the country. PREDICT/Rwanda also set up and maintains the country's only wildlife virology laboratory.

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21	Senegal	<p>PREDICT/Senegal participated in a National One Health meeting organized by the COUS (Center of Emergency Operations), Ministry of Health in February 2018. The purpose of this meeting was to validate and map the major health risks in Senegal. PREDICT/Senegal contributed expertise in the discussion of mapping Senegal's health risks by region as well as identifying next steps towards further identification and reduction of health risks in the country.</p> <p>PREDICT/Senegal participates in the One Health Task Force for elaboration of national strategy according to the GHSA action packages/themes (coordination, prevention, detection, response, non-infectious risks, personal development, biosecurity, and research). This Task Force brings together representatives from several national sectors involved in GHSA activities. Thematic groups are responsible for developing documents whose synthesis contributes to the national strategy under the GHSA.</p>
22	Sierra Leone	<p>PREDICT/SL participated as observers and advisors in the zoonotic disease prioritization workshop held in Freetown by DAI USAID Preparedness and Response Project from November 15- 17, 2017. Six Zoonotic Diseases were prioritized for multi-sector collaboration in the country: Viral Haemorrhagic Fevers ( Ebola/Lassa), Rabies, Zoonotic Influenza ( Avian, Swine), Salmonella, Anthrax, and Plague. PREDICT/SL participated in the GHSA/IHR/JEE five-year strategic activity planning for the country in October 2017, organized by the Ministry of Health and Sanitation (MOHS) with support from WHO. This meeting determined the top disease priorities for health sector development in Sierra Leone. PREDICT/SL participated and provided technical support to the Government in the REDISSE project (sponsored by World Bank) review activity and prioritization and planning process, which took place in November and December 2017 in Freetown and Makeni, respectively.</p>
23	Tanzania	<p>PREDICT/Tanzania country coordinator actively contributes technical expertise to the National One Health platform, through in-person consultations and implementing GHSA trainings for outbreak preparedness particularly in transboundary areas near the Ebola outbreak zone in DRC. The PREDICT/Tanzania team continues to actively supporting capacity enhancements for the animal and human health sectors.</p>
24	Thailand	<p>PREDICT/Thailand actively contributes towards improving national surveillance capacity. PREDICT-1 enterovirus PCR protocols have been implemented at the Thai Red Cross Emerging Infectious Diseases Health Science Centre (PREDICT lab) for testing patient specimens from the Ministry of Public Health (MOPH) under the National surveillance program for hand, foot, and mouth disease.</p> <p>PREDICT protocols (human sampling and PCR) have been implemented as national guidelines by the Bureau of Epidemiology, Department of Disease Control, MOPH to collect and test the samples from the soccer team trapped in the Tham Luang cave and rescuers. The specimens were tested at PREDICT lab and partner labs.</p>
25	Uganda	<p>PREDICT/Uganda was requested to attend the 4th High-Level GHSA Ministerial meeting in Kampala on October 25-27, 2018 joining Uganda EPT partners in updating USAID GHSA leadership on its One Health approach to better understanding zoonotic viral spillover from wildlife into people.</p> <p>PREDICT/Uganda has been a consistent participant in coordinating efforts for GHSA Implementation, sharing information about PREDICT surveillance activities and findings (once government-approved for public release). PREDICT/Uganda equips the Uganda Virus Research Institute with protocols and reagents to support zoonotic pathogen screening of wildlife and human samples at UVRI.</p>

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		<p>As a member of the One Health Partnership for Zoonosis in Viet Nam, PREDICT/Viet Nam contributed to the development of the Viet Nam One Health Strategic Plan for the period 2016 to 2020, led by the Ministry of Agriculture and Rural Development together with the Ministry of Health. PREDICT/Viet Nam contributions included providing guidance on research, surveillance and laboratory approaches designed to detect potential emerging zoonotic threats.</p> <p>PREDICT/Viet Nam was engaged in strategizing how to implement and meet targets outlined in the national strategy entitled, “Viet Nam One Health Strategic Plan for Zoonotic Diseases 2016-2020”, that has been approved by the Ministry of Agriculture and Rural Development, since December 2016. The goal of the strategy is to reduce the health and other impacts of zoonotic diseases and diseases of animal-origin, through a number of objectives, including strengthening One Health capacity for prevention and control of all zoonotic diseases, enhancing preparedness for a human emergency of animal origin, and applying One Health principles to limit the public health impact of current priority zoonotic diseases. PREDICT/Viet Nam has participated in discussing almost all focus areas of the strategy, including One Health capacity building, managing human disease emergencies of zoonotic origin, zoonotic agents with pandemic potential that are yet to emerge, managing zoonotic influenza viruses with pandemic potential, and managing other priority zoonotic diseases.</p>
26	Vietnam	
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28		<b>23 countries</b>
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2	<b>Indicator 3.2a</b>	<b>Total # evidence-based informational resources developed</b>	<b># policy briefs</b>	<b># research papers</b>	<b># situational analysis/risk assessment</b>	<b># zoonotic prioritization resources</b>	<b>#Other</b>
3	<b>WEST AFRICA (Regional)</b>						
4	Cameroon						
5	Cote d'Ivoire (EHA)						
6	Côte d'Ivoire (IP)						
7	Côte d'Ivoire (IP/EHA)						
8	Ghana						
9	Guinea						
10	Liberia						
11	Senegal						
12	Sierra Leone	1		1			
13	<b>EAST &amp; CENTRAL AFRICA (Regional)</b>						
14	DRC	1		1			
15	Ethiopia						
16	Kenya						
17	RoC						
18	Rwanda						
19	Tanzania						
20	Uganda	1		1			
21	<b>ASIA (Regional)</b>						

	H	I	J	K	L	M
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2	<b>Provide a list and brief description of each resource: include a summary of the subject/topic, include country/region</b>					
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12	T. Goldstein, S.J. Anthony, A. Gbakima, B.H.Bird, J. Bangura, A. Tremeau-Bravard, M.N. Belaganahalli, H.L.Wells, J.K.Dhanota, E.Liang, M.Grodus, R.K.Jangra, V.A.DeJesus,G.Lasso, B.R.Smith, A. Jambai, B.O. Kamara, S. Kamara, W. Bangura, C. Monagin, S. Shapira, C.K.Johnson, K.Saylors, E.M. Rubin, K. Chandran, W.I.Lipkin, J.A.K.Mazet. <b>The discovery of Bombali virus adds further support for bats as hosts of ebolaviruses.</b> <i>Nature microbiology</i> . August 2018.					
13						
14	Charles Kumakamba, Ipos Ngay Lukusa, Placide Mbala Kingebeni, Frida N'Kawa, Joseph Atibu Losoma, Prime M. Mulembakani, Maria Makuwa, Jean-Jacques Muyembe Tamfum, Raphaël Belais, Amethyst Gillis, Stephen Harris, Anne W. Rimoin, Nicole A. Hoff, Joseph N. Fair, Corina Monagin, James Ayukekbong, Edward M. Rubin, Nathan D. Wolfe, Christian E. Lange; <b>DNA indicative of human bocaviruses detected in non-human primates in the Democratic Republic of the Congo.</b> J Gen Virol. 2018 Mar 27. doi: 10.1099/jgv.0.001048					
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20	T. Smiley Evans, L. Tutaryebwa, K.V. Gilardi, P.A. Barry, A. Marzi, M. Eberhardt, B. Ssebide, M. R. Cranfield, O. Mugisha, E. Mugisha, S. Kellermann, J.A.K. Mazet, and C. K. Johnson. 2018. <b>Suspected Exposure to Filoviruses Among People Contacting Wildlife in Southwestern Uganda.</b> The Journal of Infectious Diseases. 218 (5), 22 November 2018. DOI: 10.1093/infdis/jiy251 (Preprint June 2018)					
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	A	B	C	D	E	F	G
22	Bangladesh	6		6			
23	Cambodia						
24	China	5		5			
25	India						

	H	I	J	K	L	M
22	<p>1. Ariful Islam, Jonathan H. Epstein , Melinda K. Rostal, Shariful Islam, Mohammed Ziaur Rahman, Mohammed Enayet Hossain, Mohammed Salim Uzzaman, Vincent J. Munster, Malik Peiris, Meerjady Sabrina Flora, Mahmudur Rahman, and Peter Daszak. <b>Middle East Respiratory Syndrome Coronavirus Antibodies in Dromedary Camels, Bangladesh, 2015</b>. Emerging Infectious Diseases Volume 24, Number 5. May 2018</p> <p>2. Ariful Islam, Md Lutfar Rahman, Shariful Islam, Premanondo Debnath, Mahabub Alam, and Mohammad Mahmudul Hassan. (2017). <b>Sero-prevalence of visceral leishmaniasis (VL) among dogs in VL endemic areas of Mymensingh distict, Bangladesh</b>. Journal of Advanced Veterinary and Animal Research, 4 (3): 241-248.</p> <p>3. Rahman, Mohammed Z., Najmul Haider, Emily S. Gurley, Sadia Ahmed, Mozaffar G. Osmani, Muhammad B. Hossain, Ariful Islam et al. <b>Epidemiology and genetic characterization of Peste des petits ruminants virus in Bangladesh</b>. Veterinary Medicine and Science (2018).</p> <p>4. Md. Kaisar Rahman, Shariful Islam, Jinnat Ferdous, Md. Helal Uddin, Muhammad Belal Hossain, Mohammad Mahmudul Hassan and Ariful Islam. <b>Determination of hematological and serum biochemical reference values for indigenous sheep (Ovis aries) in Dhaka and Chittagong Districts of Bangladesh</b>. Veterinary World Volume 11, Issue 8, Pages 1089-1093. August 2018. 10.14202/vetworld.2018.1089-1093</p> <p>5. Mizanur Rahman, Shariful Islam, Md. Masuduzzaman, Mahabub Alam, Mohammad Nizam Uddin Chawdhury, Jinnat Ferdous, Md. Nurul Islam, Mohammad Mahmudul Hassan, Mohammad Alamgir Hossain and Ariful Islam. <b>Prevalence and diversity of gastrointestinal helminths in free-ranging Asian house shrew (Suncus murinus) in Bangladesh</b>. Veterinary World. 11(4), 549-556. April 2018. 10.14202/vetworld.2018.549-556.</p> <p>6. Ariful Islam. <b>Nipah in Bangladesh: when epidemics become endemic</b>. Emerging Infectious Diseases. August 2018</p>					
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24	<p>1. Zhou, P., Fan, H., Lan, T., Yang, X. L., Shi, W. F., Zhang, W., ... &amp; Zheng, X. S. (2018). <b>Fatal swine acute diarrhoea syndrome caused by an HKU2-related coronavirus of bat origin</b>. Nature, 1.</p> <p>2. Wang, N., Li, S. Y., Yang, X. L., Huang, H. M., Zhang, Y. J., Guo, H., ... &amp; Hagan, E. (2018). <b>Serological evidence of bat SARS-related coronavirus infection in humans, China</b>. Virologica Sinica, 1-4.</p> <p>3. Luo, Y., Li, B., Jiang, R. D., Hu, B. J., Luo, D. S., Zhu, G. J., ... &amp; Shi, Z. L. (2018). <b>Longitudinal Surveillance of Betacoronaviruses in Fruit Bats in Yunnan Province, China During 2009–2016</b>. Virologica Sinica, 1-9.</p> <p>4. Hu, B., Zeng, L. P., Yang, X. L., Ge, X. Y., Zhang, W., Li, B., ... &amp; Luo, D. S. (2017). <b>Discovery of a rich gene pool of bat SARS-related coronaviruses provides new insights into the origin of SARS coronavirus</b>. PLoS pathogens, 13(11), e1006698.</p> <p>5. C. Monagin, B. Paccha, N. Liang, S. Trufan, H. Zhou, D. Wu, B.S. Schneider, A. Chmura, . Epstein, P. Daszak. 2018. <b>Serologic and behavioral risk survey of workers with wildlife contact in China</b>. PLoS ONE 13(4): e0194647. DOI: 10.1371/journal.pone.0194647</p> <p>6. C-M. Luo, N. Wang, X-L. Yang, H. Z. Liu, W. Zhang, B. Li, B. Hu, C. Peng, Q-B. Geng, G-J. Zhu, F. Li, Z-L. Shi. 2018. <b>Discovery of Novel Bat Coronaviruses in South China That Use the Same Receptor as Middle East Respiratory Syndrome Coronavirus</b>. Journal of Virology. Jun 2018, 92 (13) e00116-18. DOI: 10.1128/JVI.00116-18.</p>					
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	H	I	J	K	L	M
26	Lilik Prayitno, Uus Saepuloh, Ni Luh Putu Ika Mayasari, Faisal Faisal, Ellis Dwi Ayuningsih, Joko Pamungkas Pamungkas. <b>IDENTIFICATION AND MOLECULAR CHARACTERIZATION OF BOVINE HERPERVIRUSES (BoHV) DNA TERMINASE PARTIAL GENE IN ACEH CATTLE.</b> Jurnal Kedokteran Hewan. Volume 11, Issue 4. December 2017. 10.21157/j.ked.hewan.v11i4.8024					
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28	Salgado Lynn, M.; William, T.; Tanganuchitcharnchai, A.; Jintaworn, S.; Thaipadungpanit, J.; Lee, M.H.; Jalius, C.; Daszak, P.; Goossens, B.; Hughes, T.; Blacksell, S.D. <b>Spotted Fever Rickettsiosis in a Wildlife Researcher in Sabah, Malaysia: A Case Study.</b> Trop. Med. Infect. Dis. 2018, 3, 29.					
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32	Yingsakmongkon S, Petcharat S, Phengsakul P, Maneeorn P, Hemachudha T. Longitudinal study of age-specific pattern of coronavirus infection in Lyle's flying fox ( <i>Pteropus lylei</i> ) in Thailand. Virol J. 2018 Feb 20;15(1):38 2. Chaiyes, A., P. Duengkae, S. Wacharapluesadee, N. Pongpattananurak, K.J. Olival, T. Hemachudha. 2017. Assessing the distribution, roosting site characteristics, and population of <i>Pteropus lylei</i> in Thailand. Raffles Bulletin of Zoology. 3. Fooks AR, Cliquet F, Finke S, Freuling C, Hemachudha T, Mani RS, Müller T, Nadin-Davis S, Picard-Meyer E, Wilde H, Banyard AC. Rabies. Nat Rev Dis Primers. 2017 Nov 30;3:17091 4. Mulvaney SP, Fitzgerald LA, Hamdan LJ, Ringeisen BR, Petersen ER, Compton JR, McAuliff NL, Leski TA, Taitt CR, Stenger DA, Myers CA, Hansen E, Ricketts M, Hoegberg C, Homdayjanakul K, Ansumana R, Lamin JM, Bangura U, Lahai J, Baio V, Limmathurotsakul D, Wongsuvan G, Hantrakun V, Wacharapluesadee S, Mungaomklang A, Putcharoen O, Yatoom P, Kruthakool K, Hontz RD, Mores C, Siles C, Morrison A, Mayo M, Currie BJ, Jacobsen KH, Quinn K, Blutman J, Amariei F, Hannan J. <b>Rapid design and fielding of four diagnostic technologies in Sierra Leone, Thailand, Peru, and Australia: Successes and challenges faced introducing these biosensors.</b> Sensing and Bio-Sensing Research. Sensing and Bio-Sensing Research. 2018 Sep; 20: 22–33. 10.1016/j.sbsr.2018.06.003 5. Noopetch P, Ponpinit T, Suankratay C. Bartonella. <b>Bartonella henselae infective endocarditis with dissemination: A case report and literature review in Southeast Asia.</b> IDCases. Volume 13. August 2018. 10.1016/j.idcr.2018.e00441 6. Limotai C, Denlertchaikul C, Saraya AW, Jirasakuldej S. <b>Predictive values and specificity of electroencephalographic findings in autoimmune encephalitis diagnosis.</b> Epilepsy Behav. Volume 84, P. 2936. July 2018. 10.1016/j.yebeh.2018.04.007 7. Narong Nitatpattana, Yves Moné, Meriadeg AR Gouilh, Kumchol Chaiyo, Yutthana Joyjinda, Supoth Ratchakum, Supaporn Wacharapluesadee, Sutee Yoksan, Thiravat Hemachudha, Francisco Veas, Tom Vincent, and Jean-Paul Gonzalez. <b>Genetic Diversity of Dengue-4 Virus Strains Isolated from Patients During a Single Outbreak of Dengue Fever, Thailand.</b> Journal of Fever. Volume 2, issue 1009. May 2018.					
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	A	B	C	D	E	F	G
34	MIDDLE EAST (Regional)						
35	Egypt						
36	Jordan	1					1
37	GLOBAL	17	3	12			2
38	TOTALS	45	3	39			3
39	<b>*for the period 10/1/17-9/30/18 ONLY</b>						
40	<b>Global Research Papers:</b>						
41	Altizer, S., D.J. Becker, J.H. Epstein, K.M. Forbes, T.R. Gillespie, R.J. Hall, D.M. Hawley, S.M. Hernandez, L.B. Martin, R.K. Pl						
42	Allen, T., K.A. Murray, C. Zambrana-Torrel, S.S. Morse, C. Rondinini, M. Di Marco, K.J. Olival, P. Daszak.2017. <b>Global hotsp</b>						
43	Aysanoa, E., P. Mayor, P. Mendoza, E.A. Morales, J.G. Perez, M. Bowler, C. Gonzalez, J.A. Ventocilla, G.C. Baldeviano, A.G. I						
44	Rostal, M.K., N. Ross, C. Machalaba, C. Cordel, W.B. Karesh. 2018. <b>Benefits of a one health approach: An example using f</b>						
45	Machalaba C and Karesh WB. <b>Emerging infectious disease risk: shared drivers with environmental change.</b> Rev. Sci. Tec						
46	Huff AG, Allen T, Whiting K, Williams F, Hunter L, Gold Z, Madoff LC, Karesh WB. <b>Biosurveillance: a systematic review of gl</b>						
47	T.R. Kelly, W.B. Karesh, C. Kreuder Johnson, K.V.K. Gilardi, S.J. Anthony, T. Goldstein, S.H. Olson, C. Machalaba, PREDICT C						
48	Bird B., Mazet J.A.K., <b>Detection of Emerging Zoonotic Pathogens: An Integrated One Health Approach.</b> <i>Annu Rev Anim B</i>						
49	C.M.Machalaba, K.S. SMith, W.B. Karesh, et al. <b>One Health Economics to confront disease threats.</b> <i>Transactions of the Ro</i>						
50	Field H.E., <b>Evidence of Australian bat lyssavirus infection in diverse Australian bat taxa.</b> <i>Public Health.</i> May 2018.						
51	Machalaba C, Salerno RH, Barton Behrevesh C, Berthe F, Karesh WB et al., <b>Institutionalizing One Health: from Assessment</b>						
52	Evan A. Eskew, Kevin J. Olival. <b>De-urbanization and zoonotic risk.</b> <i>EcoHealth.</i> August 2018.						

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36	<p>PREDICT Jordan also authored an article for the Association of American Veterinary Medical Colleges (AAVMC)'s Council for International Veterinary Medical Education (CIVME) Newsletter titled, "PREDICTing the Next Pandemic: How One Health Scientists Are Changing the Way We Fight Infectious Diseases." The article appeared in the Fall 2017 issue and was authored by Patrick Dawson of EcoHealth Alliance. The article features the work of the PREDICT/Jordan team and quotes from various PREDICT/Jordan team members. URL: <a href="http://myemail.constantcontact.com/CIVME-News.html?soid=1104002974357&amp;aid=5YQIkJyT7SE">http://myemail.constantcontact.com/CIVME-News.html?soid=1104002974357&amp;aid=5YQIkJyT7SE</a></p>					
37	<p>1.Carroll, D., P. Daszak, N.D. Wolfe, G.F. Gao, C.M. Morel, S. Morzaria, A. Pablos-Méndez, O. Tomori, J.A.K. Mazet. 2018. <b>The Global Virome Project.</b> <i>Science</i>. doi: 10.1126/science.aap7463</p> <p>2. Carroll, D, B. Watson, E. Togami, P. Daszak, J.A.K. Mazet, C.J. Chrisman, E.M. Rubin, N. Wolfe, C.M. Morel, G.F. Gao, G. L. Burci, K. Fukuda, P. Auewarakul &amp; O. Tomori. 2018. <b>Building a global atlas of zoonotic diseases.</b> Bulletin of the World Health Organization. doi: 10.2471/BLT.17.205005.</p> <p>3. Schar, D., C.M. Machalaba, G. Yamey, W.B. Karesh. 2018. <b>A framework for stimulating economic investments to prevent emerging diseases.</b> Bulletin of the World Health Organization.doi:10.2471/BLT.17.199547</p> <p>4. Legall, F., C.M. Machalaba, W.B. Karesh, et al. 2018. <b>Operational framework for strengthening human, animal and environmental public health systems at their interface.</b> World Bank Report. 5. CITES Working Group. <b>Simplified Procedures for Permits and Certificates:</b> Report of the Working Group. SC70 Doc. 36. Submitted for the 17th Meeting of the CITES Standing Committee, 2018.</p>					
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41	owright, D.A.Satterfield. 2018. <b>Food for contagion: synthesis and future directions for studying host–parasite responses to resource shifts in anthropogenic environments. /</b>					
42	<b>ots and correlates of emerging zoonotic diseases.</b> <i>Nature Communications</i> . doi: 10.1038/s41467-017-00923-8.					
43	escano. 2017. <b>Molecular Epidemiology of Trypanosomatids and Trypanosoma cruzi in Primates from Peru.</b> <i>EcoHealth</i> .doi:10.1007/s10393-017-1271-8					
44	<b>Rift Valley fever.</b> <i>One Health</i> . doi:10.1016/j.onehlt.2018.01.001					
45	h. Off. Int. Epiz., 2017, 36 (2), 435-444					
46	<b>lobal infectious disease surveillance systems from 1900 to 2016.</b> Rev. Sci. Tech. Off. Int. Epiz., 2017, 36 (2), 513-524					
47	Consortium, JAK Mazet. <b>One Health proof of concept: Bringing a transdisciplinary approach to surveillance for zoonotic viruses at the human-wild animal interface.</b> <i>Preventi</i>					
48	<i>iosci</i> . 2017, 15 (6), 121-139.					
49	<i>yal Society of Tropical Medicine and Hygiene</i> . 2017 September.					
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51	<b>t to Action.</b> <i>Health Security</i> . May 2018.					
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41	<i>Philosophical Transactions of the Royal Society B.</i> doi: 10.1098/rstb.201						
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47	<i>ve Veterinary Medicine.</i> 2017, 137B, 112-118.						
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2	<b>Indicator 3.2b</b>	<b>#, list of community OH events coordinated *include title of event, date of event, brief description of the event including topic focus, geographic location (city/village/locale) and country in which it took place</b>
3	<b>Indicate Country, Region or Global</b>	
4	Bangladesh	<p><b>2 events</b>  05 Nov 2017. One Health Day Celebration 2017. Sher-E Bangla Agricultural University and Jhenidah Government Veterinary College.  PREDICT/Bangladesh, along with P&amp;R and One Health Bangladesh, organized a collaborative essay competition for students and future One Health practitioners on the eve of the One Health Day celebrations. The program included a rally and a One Health talk to encourage medical and veterinary students to participate in One Health.</p> <p>On March 25th, 2018 PREDICT Bangladesh co-organized a Symposium on Priority Zoonotic Diseases and their Economic Impacts. PREDICT/Bangladesh has also helped coordinate and implement a One Health Economic analysis of the cost efficiency of One Health approaches to disease surveillance and outbreak response.</p>
5	Cote d'Ivoire	<p><b>2 events</b>, Oct 2017. Risky Interfaces. PREDICT/CIV's behavioral team led discussions with restaurant owners, butchers, bushmeat vendors, and animal resource officers to discuss their work and the One Health approach to risky interfaces in the Bouaflé region and in Marahoué National Park. This interaction was an opportunity to highlight risks associated with their business and how to work together to avoid risk.</p> <p>Jan 2018. Villager Meetings, Focus Groups, and 3-day Visit in Asproa.  Villager meetings in Asproa, focus groups in Sergeant Konankro, and three-day visits of subsites (Boguekro and Djhakro) that allowed for sensitization of the population to work done by PREDICT/CIV, with discussions on the risk of bat-man-livestock exposure.</p>
6	Ethiopia	<b>1 event</b> , 26-27 Mar 2018. Consultation to Awash human and animal health service providers on emerging zoonotic viral diseases of great importance to human health
7	Ghana	<p><b>3 events</b>, Nov 2017. Nkoranza North District. Training workshop for the human disease surveillance component of the PREDICT project. A three day event combined with community engagement at the surveillance sites including questionnaire administration and outreach on the PREDICT project with education on zoonotic diseases and One Health.</p> <p>PREDICT/Ghana held a durbar of chiefs and opinion leaders as well as health staff in the two communities of Boabeng and Fiema in November 2017 to conduct education and outreach on viral zoonoses and One Health approaches and to provide an update on PREDICT Ghana's activities and plans for the upcoming year.</p> <p>PREDICT/Ghana is also a key partner in Ghana's One Health strategy for canine rabies control that is being championed by Rabies in West Africa (RIWA), whose lead person is PREDICT'S Wildlife Coordinator, Dr. Richard Suu-Ire. Dr. Suu-Ire and the Country Coordinator, Dr. Bel-Nono conducted community outreach and education on rabies control during community canine vaccination programs in September and October 2018.</p>

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2	<i>Includes community-engagement and outreach, faculty/student clubs, trainings of community members/workers (e.g., farmers poultry handlers), risk communication events targetd at the community, and community/civil society stakeholder engagement (FAO, OHW) such as village meetings, Rabies day campaign, communication events, etc.</i>
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8	Guinea	<b>Multiple events</b> , PREDICT/Guinea organized Community Engagement Meetings in each of the villages where the team works in the Forest Region of Guinea (4 Prefectures). These meetings were held before, during and after animal sampling in a village to encourage a communication loop for local knowledge throughout the PREDICT project, enable reflective and systematic examination of previous sampling sessions, and to sensitize and mobilize the community to raise people's awareness of the role of the animal-human interface in viral transmission, an essential key to preventing outbreaks of zoonotic disease. Meetings attendants included representatives from the Ministry of Health, Ministry of Environment, Water and Forestry, Ministry of Livestock and Animal Resources, and community members. A minimum of 25 people attended each one of the meetings. PREDICT/Guinea continues to coordinate One Health meetings at the community level to discuss activities, and communicate/educate for living safely with wildlife/bats.
9	India	<b>Multiple events</b> , Community outreach programs were undertaken during all field visits where the PREDICT/India team explained the dynamics of transmission of zoonotic infections, risk factors that promote these and possible mitigation actions to the local communities.
10	Indonesia	<b>Multiple events</b> , PREDICT/Indonesia facilitated several small community meetings and outreach events with village heads prior to the implementation of human community surveillance activities in North Sulawesi. Meetings were aimed at informing community leaders about zoonotic disease and explaining the goals of PREDICT surveillance.
11	Kenya	<p><b>2 events</b>, One Health Training Event, 01 - 04 Feb 2018, Mpala</p> <p>PREDICT/Kenya jointly with OHW/OHCEA, FAO, and USAID P&amp;R conducted a One Health training event at Mpala. During the training, participants were taken through a pandemic simulation to learn how to approach an outbreak investigation using PREDICT biosecurity and biosafety protocols. A total of 37 participants drawn from University of Nairobi and Moi University postgraduate students and their faculty mentors, veterinarians at both the national and county (Laikipia) level, Kenya Wildlife Services, Laikipia County health officers and members of the local community. The students observed first-hand a defined high-risk interface, learning about the different drivers and human behavioral risk factors that contribute to the emergence and/or spread of pathogens. In addition, the students learned how to apply the One Health concept to mitigate some of the problems the local community were experiencing (frequent diarrhea and flu-like symptoms).</p> <p>PREDICT, in collaboration with OHCEA, provided infectious disease field training to 36 students from University of Nairobi and Moi University at a high risk interface site in Amboseli (an OHCEA demo site). Training included biosecurity, PPE, and safe animal handling (livestock and rodents). Students represented various fields of study (medical, nursing, public health, environmental health, agriculture and range management, wildlife, veterinary, engineering, and journalism). The students worked with and within the community to identify potential health risks.</p>
12	Lao PDR	<p><b>Multiple events</b></p> <p>Village meetings in Na Pa Kieb and Soth, 19-20 Feb 2018</p> <p>PREDICT/ Lao PDR expanded the reach of its stakeholder engagement and risk mitigation communications, continuing to hold meetings in Na Pa Kieb and initiating additional village meetings in nearby Soth village. Stakeholders were updated on PREDICT surveillance activities &amp; risk mitigation strategies to reduce risk of zoonotic virus transmission. Subjects included handwashing, avoiding animal body fluids, and cooking meat thoroughly.</p>

	A	B
13	Liberia	<p><b>Multiple events</b></p> <p>PREDICT was instrumental in organizing and implementing a World Rabies Day campaign (28 Sept 2017). The PREDICT team was critical to the success of the event having already been trained in humane animal restraint and vaccinated for rabies. The event was a great collaboration between PREDICT/Liberia, the National Public Health Institute of Liberia, Ministry of Agriculture, Ministry of Health, Food and Agriculture Organization of the U.N. Nearly two hundred dogs were vaccinated at two locations.</p> <p>In March 2018, PREDICT/Liberia along with the organizations previously mentioned conducted a rabies vaccination campaign in the neighborhood surrounding the Embassy at the request of the USAID Mission in Liberia.</p> <p>PREDICT/Liberia participated in several community One Health events. The team routinely conducts community engagement with each field trip to educate the local community on the role of the project and the importance of wildlife and their role in the environment. Furthermore, PREDICT/Liberia has played an important role with the National Public Health Institute of Liberia on One Health Day, World Food Day, and at the US Embassy Health Fair.</p>
14	Malaysia	<p><b>Multiple events</b></p> <p>One Health Student Introduction (3 Feb 2018): PREDICT/Malaysia conducted a presentation focusing on One Health related issues, careers in One Health, and the introduction of the PREDICT project in Malaysia to undergraduate students during the Borneo Eco Film Festival.</p> <p>Introduction to zoonosis and safe methods to prevent zoonotic infections. 14 Mar 2018. Meeting with village leaders to introduce zoonosis and our human study in Kampung Redip (Pos Hau), Gua Musang District, &amp; Kelantan.</p> <p>Introduction to zoonosis and safe methods to prevent zoonotic infections. 21 Mar 2018</p> <p>Meeting with village leaders to introduce zoonosis and our human study in their community, Pos Sinderut Health Clinic, Kuala Lipis District, Pahang.</p> <p>Introduction to zoonosis and safe methods to prevent zoonotic infections. 29 Mar 2018. Meeting with village leaders to introduce zoonosis and the PREDICT human study in their community, Pos Yum, Kuala Kangsar District, Perak.</p> <p>28 June 2018: PREDICT conducted community meeting for around 200 villagers at Pos Hau to introduce the idea of One Health to the Orang Asli community, to increase their awareness of the risk of zoonotic diseases transmission, the risks posed by contact with wildlife and how to minimize these risks. Health leaflets were distributed to villagers, village leaders and the school to help educate villagers.</p> <p>24 July 2018: PREDICT conducted community meeting for around 200 villagers at Pos Yum to introduce the idea of One Health to the Orang Asli community, to increase their awareness of the risk of zoonotic diseases transmission, the risks posed by contact with wildlife and how to minimize these risks. Health leaflets were distributed to villagers, village leaders and the school to help educate villagers.</p> <p>15 August 2018: PREDICT conducted community meetings for around 150 villagers at Pos Sinderut to introduce the idea of One Health to the Orang Asli community, to increase their awareness of the risk of zoonotic diseases transmission, the risks posed by contact with wildlife and how to minimize these risks. Health leaflets were distributed to villagers, village leaders and the school to help educate villagers.</p> <p>4 September 2018: PREDICT conducted community meeting for around 200 villagers at Pos Tohoi to introduce the idea of One</p>

	A	B
15	Myanmar	<p><b>3 events</b> In Year 4, the PREDICT/Myanmar team organized two community engagement meetings in 2 concurrent sites, which coincided with surveillance activities. The objective of this meeting was to provide feedback on the analysis of risk characterization, daily practices of the sampled respondents and their experiences of flu-like sicknesses.</p> <p>A total of 27 participants attended in the meeting in Hpa-an (concurrent site 1), which was chaired by State Health Director. Invitees were officials from State &amp; Township health departments, State LBVD, State Forestry departments, general administrative department, local health staff, community health volunteers and the community leaders from the survey villages. Community leaders and health staff raised questions related to potential risks of wildlife, especially bats in the caves, and how to prevent disease transmission. The State health director and the PREDICT team explained the preventive measures and practices that can be used to protect the community including hand washing, PPE and safe animal handling practices.</p> <p>In Hmawbi, concurrent site 2, Township Medical Officer took a lead for the discussion on feedback and progress of PREDICT surveillance and preliminary findings. As this coincided with monthly meeting of Township Health Department, about 80 midwives, 2 trained nurses, 3 Health Assistants and 4 Community Health workers attended. Participants actively participated and raised some questions related to zoonotic diseases and possible ways of transmission.</p>
16	Nepal	<p><b>Multiple events</b> Community Health Screening. 13-19 Mar 2018. Jadibuti, Kathmandu, Nepal. As part of PREDICT/Nepal human surveillance activities, the team engaged communities sharing information on the program.</p> <p>Health Camp. 29 Mar–1 Apr 2018. Silinge, Makwanpur, Nepal. As part of PREDICT/Nepal human surveillance activities, the team engaged communities sharing information on the program.</p> <p>During one health research implementation in communities, focused group discussions were organized among the residents to create awareness on the risk of zoonotic diseases transmission between and among humans and animals. In addition to this, PREDICT/Nepal offered general health check up services and provided sanitary kit to encourage proper personal hygiene practices.</p>
17	Senegal	<p><b>2 events</b>, Community Sensitization: At the community level, sensitization of the populations of the villages of Sindia, Bandia and Kiniabour was carried out by the PREDICT/Senegal One Health team composed of medical doctors, veterinarians and community health workers. The aim of these sessions was to engage the community for increased project commitment in addition to mitigating the risks of zoonotic pathogens through education and sensitization.</p> <p>Community engagement at Sindia surveillance site with (1) school teachers and students, (2) farmers, and (3) administrative and municipal authorities: Raising the awareness of primary school teachers and students about the objectives of PREDICT, living safely with wildlife, and the risks of contact and handling of wildlife and how to prevent these risks (23-25 April 2018)</p>
18	Sierra Leone	<p><b>Multiple events</b> PREDICT/Sierra Leone engaged district, chiefdom, and community level stakeholders in the six operational districts (Kambia, Bombali, Kono, Koinadugu, Western Areas). This involved government district officers in the Ministry of Health and Agriculture and local level meetings with key stakeholders to provide updates on surveillance visits.</p> <p>PREDICT/SL conducted community engagement sessions at every field sampling visit in all of our operational districts (Kambia, Bombali, Kono, Koinadugu, Western Area rural, and Pujehun) focusing mainly on One Health risk mitigation and promoting healthy living in the communities.</p>

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19	Tanzania	<p><b>Multiple events</b>  <b>17</b> community engagement events: 6 in Kibondo, 3 in Uvinza, and 8 in villages in Kyerwa.</p> <p>Attendees include village Executive Officers, village council (chairperson and other leaders), and community members. In Kyerwa, the ward council was included.</p> <p>World Rabies day celebration took place on 28th September, 2018 in Southern Highlands Zone Njombe Iringa Mgodechi village, Ramadhani ward. The PREDICT/Tanzania team participated in World Rabies Day activities in collaboration with Government Veterinary Investigation Centre partners in the southern highland zone of Tanzania. PREDICT/Tanzania talked to community members about how to live safely with wildlife such as bats, a known reservoir host for Rabies virus, as well as other animals known as hosts for zoonotic viruses. PREDICT/Tanzania veterinary team had the opportunity to train five animal health professionals and one medical officer in biosafety and biosecurity measures and proper use of personal protective equipment (PPE). In addition, PREDICT/Tanzania vets helped administer vaccine to 51 dogs in Mgodechi village, and enabled the broader vaccination of 200 dogs by providing medical supplies (PPE and syringes) to regional animal health professionals.</p>
20	Thailand	<p><b>Multiple Events</b></p> <p>1) Rabies Prevention and Control. 20 Mar 2018. Bangkok</p> <p>Conducted a press conference for medical staff, media and the general public at Chulalongkorn Hospital.</p> <p>2) Rabies Prevention at the Community Level. 17 Dec 2017. Bangkok</p> <p>Provided training at the Girls Scout Training Center in Bangkok, as part of One Health activity organized by the Thai Red Cross Society.</p> <p>3) Rabies Prevention at the Community Level. 7 Nov 2017. Bangkok</p> <p>Provided training for improving medical knowledge of employees in a private company.</p> <p>Emerging Infectious Disease Preparedness, Prevention &amp; Response in Thailand. 31 Jan 2018. PREDICT/Thailand Organized community outreach and health practitioner's participation in a One Health demonstration at Wat Luang sub-district as part of the PMAC Field Trip.</p> <p>Conducted press conference on "Soccer team and Tham Luang cave: Lesson Learnt and Thailand EID preparedness" for medical staff, media and public at Chulalongkorn Hospital, on August 3, 2018.</p>
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22	<b>*for the period 10/1/17-9/30/18 ONLY</b>	
23		<b>17 countries</b>

	A	B	C	D	E	F	G	H
1	Indicator O1	Total # of in-country staff	Total # of in-country staff who are from the host country	Total # of in-country staff who are from the region (but not host country)	Total # of in-country staff who are not local or from the region	Proportion of in-country staff who are from the host country	Proportion of in-country staff who are from the region (but not host country)	Proportion of in-country staff who are not local or regional
2	AFRICA (Regional)							
3	Cameroon	10	9	0	1	90%	0%	
4	Côte d'Ivoire (IP/EHA)	8	8	0	0	100%	0%	
5	DRC	8	7	0	1	88%	0%	
6	Eastern DRC	2	2	0	0	100%	0%	
7	Ethiopia	8	8	0	0	100%	0%	
8	Ghana	11	11	0	0	100%	0%	
9	Guinea	23	23	0	0	100%	0%	
10	Kenya	3	3	0	0	100%	0%	
11	Liberia	23	22	0	1	96%	0%	
12	RoC	4	4	0	0	100%	0%	
13	Rwanda	3	3	0	0	100%	0%	
14	Senegal	10	10	0	0	100%	0%	
15	Sierra Leone	28	26	1	1	93%	4%	
16	Tanzania	13	13	0	0	100%	0%	
17	Uganda	3	3	0	0	100%	0%	
18	ASIA (Regional)							
19	Bangladesh	27	27	0	0	100%	0%	
20	Cambodia	7	7	0	0	100%	0%	
21	China	17	17	0	0	100%	0%	
22	India	2	2	0	0	100%	0%	
23	Indonesia	8	8	0	0	100%	0%	
24	Lao PDR	2	2	0	0	100%	0%	
25	Malaysia	14	13	0	1	93%	0%	
26	Mongolia	3	3	0	0	100%	0%	
27	Myanmar	2	2	0	0	100%	0%	
28	Nepal	21	21	0	0	100%	0%	
29	Thailand	6	6	0	0	100%	0%	
30	Vietnam	4	3	0	1	75%	0%	
31	MIDDLE EAST (Regional)							
32	Egypt	0	0	0	0	0%	0%	
33	Jordan	1	1	0	0	100%	0%	
34	TOTAL	271	264	1	6	97.42%	0.37%	
35								
36	TOTAL							



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	<p><b>*In-country staff:</b> people employed by implementing partner staff to work on EPT-2 projects in EPT-2 countries.</p> <p><b>*Include only full-time or "most-time" staff</b> (i.e., exclude part-time staff 49% FTE or less, short term consultants)</p> <p><b>*Regions include:</b> East and Central Africa – DRC, Egypt, Ethiopia, Jordan, Kenya, ROC, Rwanda, Tanzania, Uganda; West Africa – Cameroon, Cote d'Ivoire, Ghana, Guinea, Liberia, Senegal, Sierra Leone; Asia – Bangladesh, Cambodia, China, India, Indonesia, Laos, Malaysia, Mongolia, Myanmar, Nepal, Thailand, Vietnam</p>
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38	<b>*for the period 10/1/17-9/30/18 ONLY</b>							

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	GHSA CATEGORIES	Prevent Avoidable Epidemics				Detect Threats Early						Respond Rapidly and Effective			
2	GHSA Action Packages	AMR*	Zoonotic Diseases	Biosafety and Biosecurity of Dangerous Pathogens	Immunization	Laboratory Systems: modern diagnostics 10 core tests	Labs*	Surveillance for 3 core syndromes	Real-time, interoperable biosurveillance	Reporting	Workforce Development	EOC	Multisectoral Response	Medical and non-Medical countermeasures	USAID Country Total
3	Guinea		6	2		2		2	1	1	3	3	3	0	23
4	Liberia	X	6	2	X	2	X	2	1	1	3	3	3	0	23
5	Sierra Leone		6	2		2		2	1	1	3	3	3	0	23

	A	B
1	New Characterization	
2	In Progress	
3	Complete	